OCTOBER, 1956

Printed In Two Parts
PART I

TRAFFIC ENGINEERING

- New Orleans Solves a 5-Point Problem
- Mr. Average Motorist
- Marking the Interstate System of Highways
- San Antonio Looks Ahead

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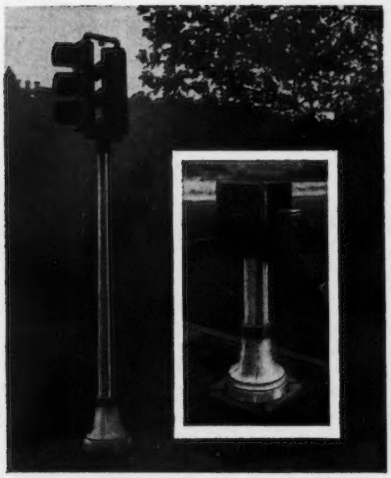

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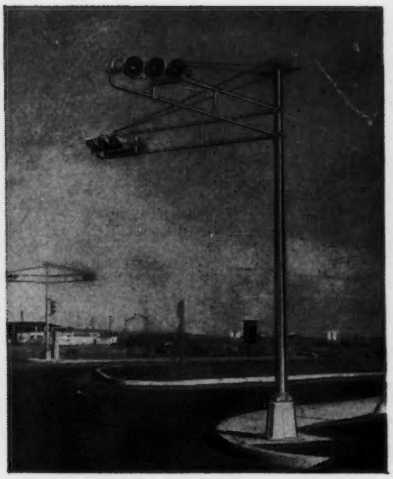

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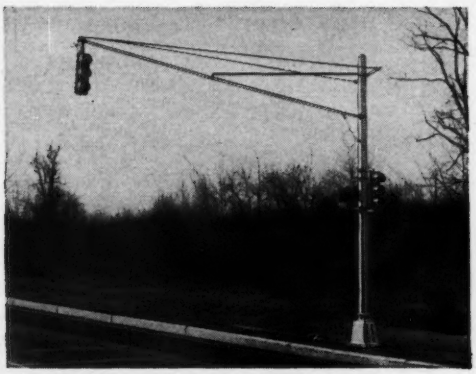

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Frankly Speaking . . .

VOLTAIRE ONCE SAID that philosophy has for its two most important objects "the discovery of what is true, and the practice of that which is good." In a broad sense, then, traffic engineering is a philosophy as well as a field of scientific specialization.

Whether we like it or not, this requires a two-way stretch. To be wholly successful, today's traffic engineer and tomorrow's, must submit to both pulls. He keeps his feet on the ground, discovering the truth in traffic facts, and practicing what is good in the technical sphere. But he also puts his feet upon the desk periodically for meditation, after the fashion of the philosopher.

And what comes to his meditating mind? Perhaps it will be problems of administration in his own work area. He will learn, sometimes slowly, sometimes more rapidly, that effective administration has great value. Reduced to its fundamentals, he finds that good traffic engineering administration closely resembles any other successful administrative undertaking. It means good plans, comprehensive and complete. It means proper organization, with the round pegs in the round holes. It means enlightened and inspired direction of work effort. And it means taking time to examine and control quantity and quality in the performance of his staff. Many traffic engineers, otherwise highly competent, fall short of their potential accomplishment because they neglect these essentials.

Or, with his feet still on the desk, our philosophizing traffic engineer friend may look outside his own work-realm to gain a better perspective. He will see there his contribution to the ever-accumulating knowledge of traffic and the public benefits that arise from his professional service. In these introspective moments, he may find he is headed in the wrong direction, as we all are at one time or another. He may discover he is retaining too exclusively to himself the power of decision on too much detail. He may begin to sense the larger objectives for his own efforts, and improve his judgment of those values that really count.

It is for these reasons, among many, that traffic engineering seems not only a science, but also a philosophy—"the discovery of what is true, and the practice of that which is good." The Institute of Traffic Engineers is assured a brilliant future. I believe we can take Voltaire's wisdom into that future as a byword for sustained progress in traffic engineering.

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New Orleans Solves a Five Point Problem

By John F. Exnicios
(Assoc. Mem., ITE)
Assistant Traffic Engineer
New Orleans, Louisiana

THE FIVE POINT intersection has always plagued the traffic engineer. Whenever traffic volumes are light, and land is plentiful, a popular treatment for this type of intersection is the traffic rotary or traffic circle. In many old cities such roadways were constructed whereby all traffic would travel in a counter-clockwise direction around a large circular central island, first merging, then weaving, then finally diverging into the proper exit street. These traffic circles were very efficient as long as volumes were in the proper proportion to the size of the weaving areas of the intersection. However, as vehicular volumes increased, it became necessary either to increase the size of the traffic circle proportionately, in order to provide necessary additional weaving area, or to eliminate the free-flowing movement, that is to signalize the circle, or finally to re-design and eliminate the circle altogether by either employing grade separation or a re-alignment of the intersecting roadways. Of course even when the proper weaving sections were present, there was always a problem of pedestrian movement through this type of free-flowing traffic intersection, when located in an urban area.

In recent years the problem of both increased vehicular volumes, and increased pedestrian volumes caused a large five point traffic circle in the residential area in New Orleans, Louisiana to become a serious problem to the city's traffic engineers. This intersection was known as "De Saix Circle," and is located in the northern part of the city, in a section which is rapidly developing. One of the major problems involving the handling of traffic at this intersection was the immediate location of a large elementary school, with an enrollment of approximately 1200 students. From a standpoint of vehicular traffic the problem did not become acute until after 1952, when one of the five boulevard approaches, St. Bernard Avenue to the north, was opened into a heavily populated residential area. Prior to this time vehicular volumes on this one approach were practically non-existent. Figure 1 is an aerial photograph of this intersection taken in early 1955. It shows a center island which measures 280 feet in diameter, and a one-way 40 ft. roadway circling around this center island. The approach boulevards and their dimensions to this intersection are: St. Bernard Avenue, north and south, two 32 foot roadways; Gentilly Boulevard, east and southwest, two 36 foot roadways, and De Saix Boulevard, northwest, two 36 foot roadways.

Early in 1955 the problem during the peak hour of traffic traveling through this intersection became increasingly acute. The pedestrian problem which involved hundreds of children crossing this intersection from all directions was one of the more serious hazards.

In order to determine which steps should be taken to correct these conditions of traffic congestion and hazard, an extensive study was undertaken by the New Orleans Division of Traffic Engineering. The study was conducted in the Spring of 1955, and on June 15 of the same year a 68-page report was submitted to the New Orleans City Council entitled "A Traffic Study of The De Saix Circle." The study in-

Fig. 1
DeSaix Circle as it appeared prior to 1956.

cluded an accident analysis of the years 1953 and 1954; an origin and destination study, which was taken during both peak and off-peak hours; a volume analysis of all traffic entering and leaving the intersection; a capacity study of each of the weaving areas of the intersection, and finally a speed and delay study of vehicles traveling through this traffic circle.

There were 41 reported accidents occurring at the De Saix Circle during 1953 and 1954. Of these 16 were "side swipe" collisions, and fifteen were rear-end collisions. There was also one pedestrian accident during this period. It was determined that the side swipe and rear-end collisions were caused primarily by vehicles improperly weaving in the Circle, and making wide turns into exit roadways from the inner lanes. There were nine accidents involving the collision of vehicles with the median area, and it was determined that this was caused by the necessary change in the alignment of the approach roadway to the circle. Those involved in these collisions failed to negotiate the right turns brought about by these alignment changes. Even though the record showed no children were involved in pedestrian accidents during the two year period, the great numbers crossing this uncontrolled intersection were cause for concern.

In order to determine the travel characteristics of vehicles using the circle, it was necessary to conduct an origin and destination study of all traffic movements. A field study was made between the hours of 7:00 and 8:00 A.M., which was the morning peak; 1:00 and 2:00 P.M., an average off-peak hour, and 4:00 and 6:00 P.M., which was the evening peak. The field data was collected on Wednesday, March 2, 1955, with clear weather prevailing. The method of data collection used in this study was the recording of license plate numbers of every vehicle entering and leaving the circle. There were ten teams of two men each, one team on each approach and exit. One man read the license number and the second man recorded the information. A supervisor was located in the center of the circle acting as "Timer," and he would sound a bell every two and one half minutes, and each team divided their data into that interval. This time interval simplified the correlation of data. The local transit company, The New Orleans Public Service, Incorporated, co-operated with the city in this study by placing checkers in the area recording all transit movements through the circle during the study periods.

Between the hours of 7 A.M. and 8 A.M. on the day of the origin and destination study, 2512 vehicles were driven through this rotary intersection. The heaviest movement was 556 trips from Gentilly Boulevard east, to Gentilly Boulevard southwest. During the off-peak period between 1:00 P.M. and 2:00 P.M. there was a total of 1240 vehicular trips through the circle, of which 450 trips were from Gentilly Boulevard east to Gentilly Boulevard southwest. It should be pointed out that Gentilly Boulevard east is U. S. 90, and carries appreciable traffic throughout the day. During the evening peak, between 4 and 5 P.M. the trend is reversed, and there were 2,078 trips through the circle, of which 563 were from Gentilly Boulevard east to De Saix Boulevard. Between the hours of 5 and 6 P.M. there was a reversal in the Gentilly Boulevard traffic, and of the 2404 trips during this hour 560 of these trips, which constitute a majority, were from Gentilly Boulevard southwest to Gentilly Boulevard east. For the purpose of study, bar graphs were constructed for each entrance for each of the study hours, and each graph showed the percentage of traffic that used each of the available five exits. The origin and destination study indicated that the vehicle trips between Gentilly Boulevard and De Saix Boulevard uptown far outweighed the trips to and from St. Bernard Avenue through the rotary intersection; also vehicle trips between De Saix Boulevard and St. Bernard Avenue to the south were appreciable, and in considering the future design there should be provided some direct connection between these two boulevards.

An analysis of the traffic volume shows that the weekly volume was approximately 252,000 using the De Saix Circle—an average weekday count was 35,000 vehicles. A pedestrian volume count was also taken during the evening hours, immediately after the dismissal of the elementary school. It was learned that at one location 155 children crossed in a period of one half hour. Using the origin and destination data, volume flow charts were prepared for each of the four study hours. These charts clearly indicated the weaving sections of the circle that were overtaxed. Between the hours of 7 and 8 A.M. it was learned that 1585 vehicles traveled in a weaving section 120 feet in length. Between the hours of 4 and 5 P.M., there were 1594 vehicles using a weaving section of 180 feet in length, and between the hours

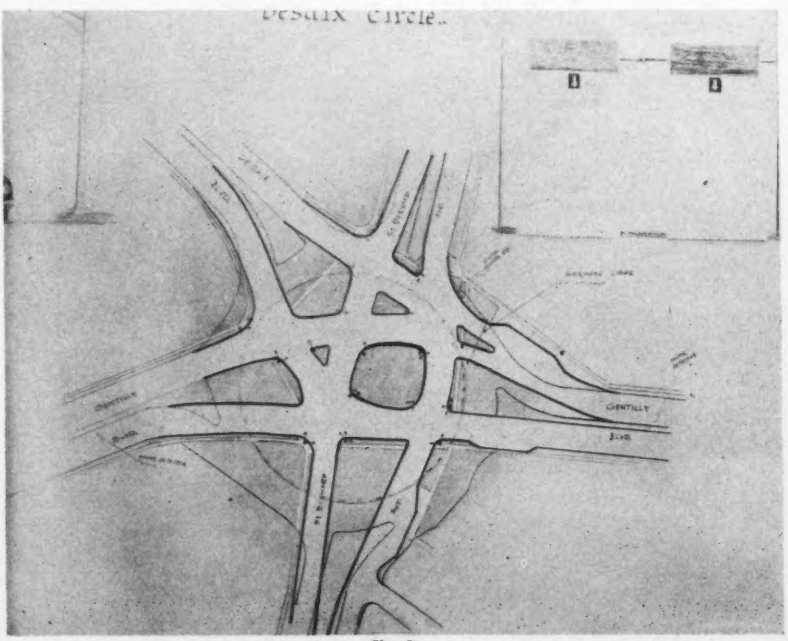


Fig. 2
Illustrated drawing showing re-design of DeSaix Circle.

of 5 and 6 P.M. there were 1693 vehicles using a weaving section of 190 feet in length.

A chart was prepared comparing the practical capacity of each weaving section in vehicles per hour, and the actual number of vehicles weaving during the origin and destination study. During the morning study one of the 150 ft. weaving sections was operating more than 100 vehicles above practical capacity; during the off-peak hour all weaving sections were operating below practical capacity. Between the hours of 4 and 5 P.M. two of the sections were operating above capacity, and between 5 and 6 P.M. again one section was operating 280 vehicles over capacity. All of the approach roadways, with the exception of St. Bernard from the north, had "Yield-Right-of-Way" signs. It was necessary to install "Stop" signs on the St. Bernard approach from the north, due to the short 120 ft. weaving section, and the heavy flow into the adjacent roadway of De Saix. Speed and delay runs were also made to serve as useful data as a before study, when and if any physical or other control changes were to be made at the circle.

The traffic study was presented to the City Council with recommendations, and with a proposed re-design, which would be necessary when the St. Bernard approach from the north was to be further extended into another heavy residential area to the north of this intersection. The City Council studied this report and decided to secure the necessary funds to re-design this intersection, as the St. Bernard Avenue right-of-way to the north had been secured, and the roadways were to be constructed during 1956.

Therefore, in the Spring of 1956 this rotary intersection was re-designed as shown in Figure 2, with all roadways within the intersection accommodating three lanes of traffic. It should be noted that Gentilly Boulevard to the east, which carries the heaviest traffic volumes into the intersection now has four approach lanes.

Figure 3 is an aerial photograph taken shortly after the intersection was re-opened, and shows the extent of pavement markings used. Solid white lane lines were painted on the approaches and exits, as well as within the intersection. A complete system of sidewalks was installed, which insures the proper paths for pedestrians attempting to cross this intersection.

Permanent crosswalks were also installed in line with these sidewalks. These crosswalks were constructed of 3″x6″ plastic markers, and on the vehicle approaches to the intersection

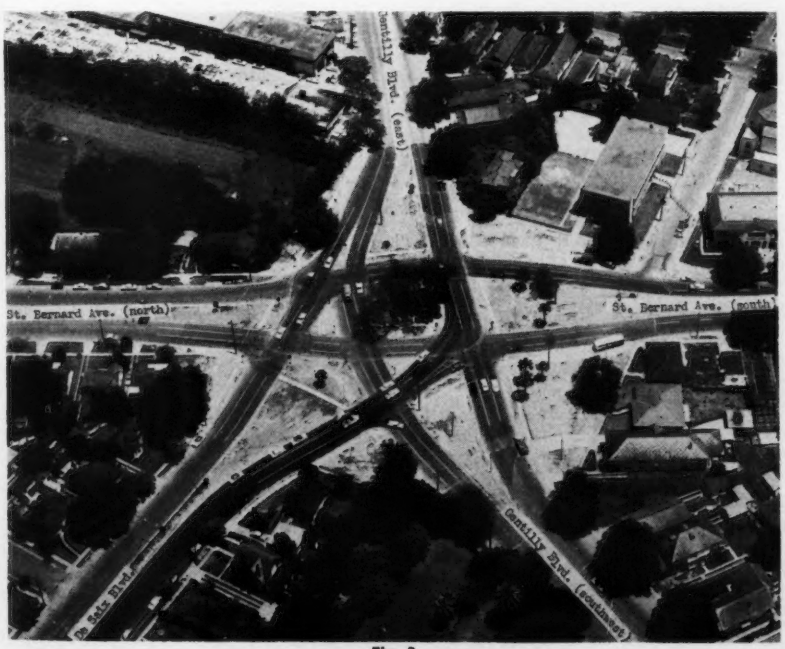


Fig. 3
Newly re-designed DeSaix intersection.

Fig. 4
Children now cross with protection of traffic signal and marked crosswalks.

stop line bars were also installed. Figure 4, shows children crossing in safety ard approach from the north was to within the marked crosswalks observing the traffic signal. This re-design called for the removal of approximately one half of the oak and palm trees which formerly were located in the center island of the traffic circle. A complete system of signs, including two large 3 ft. x 12 ft. reflectorized overhead signs were installed at this intersection, in order to properly direct motorists to their desired location.

This new design required that a three phase traffic signal be installed to accommodate all of the desired traffic movements. The signal system finally devised was a very unique one which employed a three phase traffic-actuated controller, which employed radar detectors on each of the five approaches to the intersection.

Figure 5 is a signal phasing chart showing the basic traffic movements made during the three phases A B and C. Rather than a three phase, this operation might be termed two and one-half phase, as the main approach, Gentilly Boulevard, from the east moves on both A and B phases. It is to be noted that phases B and C are followed by clearance intervals which keep the interior of the intersection relatively free from undue congestion.

Another design featured is the indenting of three important "Bus Stop" locations at this intersection. This feature is very important to the capacity of this intersection. The city has installed a complete system of mercury arc vapor lights within the intersection, and on all the approaches and exit

roadways. All left turn movements are permitted within this intersection, and by placing magnetic detectors in the roadways of the intersection it is possible for the controller to detect the presence of these left turning vehicles and then call for the green signal on their particular phase.

Prior to the intersection re-design, the 1955 study showed that the A.D.T. of this intersection was approximately 35,000 vehicles. A count taken in June of 1956 showed that the average daily traffic is now 41,500 vehicles using the re-designed signalized intersection. On one Sunday in June of 1956, 47,240 vehicles used this intersection in a 24 hour period. Manual counts taken during the peak hour on the average week day indicate that there is very little change in peak hour volumes using this intersection. Speed and delay runs were made before and after re-design. It was learned that the introduction of the three phase actuated signal has caused an average of 14.4 seconds delay to vehicles during the peak hours. This is considered satisfactory, inasmuch as all left turns are permitted within the intersection, and with the traffic circle vehicles were not required to stop going through the intersection.

Sufficient time has not elapsed to measure the degree of safety caused by the re-design of this intersection, however, if the trend of the first few months after the opening of this new intersection continues, the accident rate will show a sharp decrease.

An interesting sideline to the re-design of this intersection was the manner in which it was constructed. All inner roadways within the traffic center circle island were first constructed, allowing traffic to continue uninterrupted around the outer circle roadway. When the inner roads were complete and ready for opening, the outer circle roadways were then closed, traffic signals turned on, and traffic began to use the new intersection from that day forward.

While it is still too early to predict to what extent this re-design will be successful, the general public acceptance of the new operation and its unquestioned ability to handle increasing traffic pressures gives traffic engineers and city officials the feeling that "New Orleans has solved its own five point intersection problem."

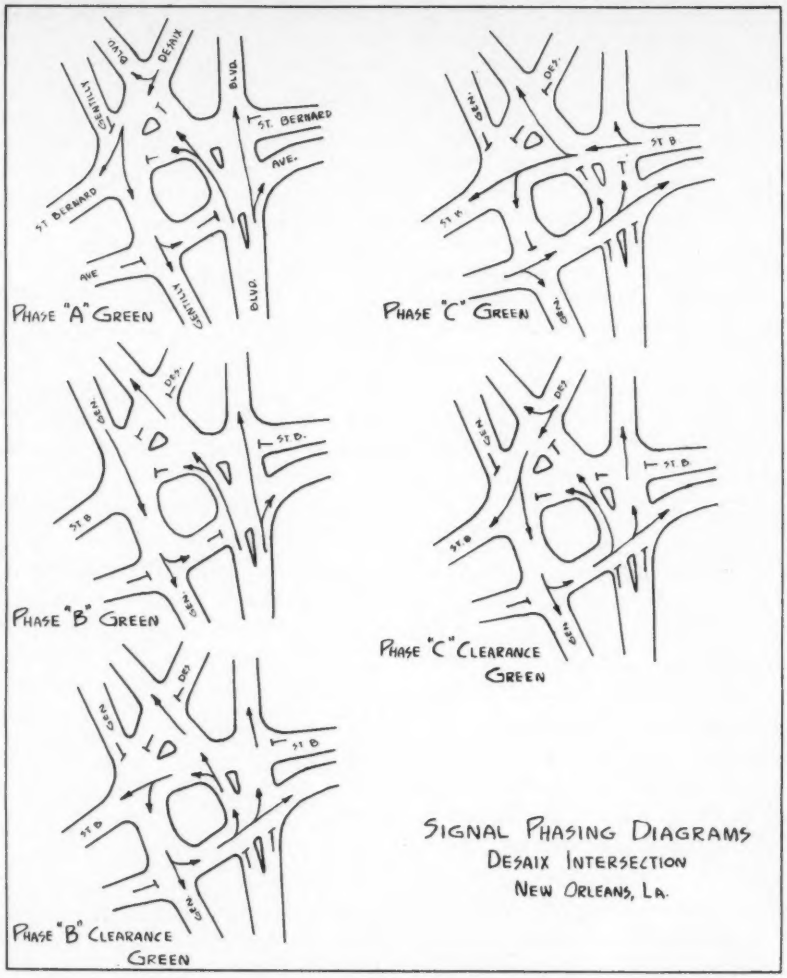


Fig. 5
The signal phasing for the signalized DeSaix intersection.

Canadian Views of the Highway Research Board Meeting

By Irv Weinberg (Jr. Mem., ITE)

We're not alive when the clock rings at five
(That's A.M. and we're not jokin' son)
But we crawled out of bed, a-draggin' our head
For that convention trip to Washington

At Malton field in the early A.M.
Before the sun had riz
We three huddled shivering
Ready for customs' quiz.

He sternly looked and then spoke thus
"Where were youse tree born"
He had us stumped, we had to be pumped
It was too early in the morn.

So up the stairs and in the plane
Greeted by "Good-Morning Sir"
Then we quickly scanned from front to rear
To see where the can and the "spew bags" were.

At Washington

From 9:30 A.M. the papers began
We listened and worked hard at it
Then on in the night, we had quite a fight
With the expense account, and how to pad it.

There were papers on concrete, shoulders and byways
Law, access and the planning of highways,
Sessions were all prompt, except one that was tardy,
The one that followed the big cocktail party.

The trip by air was worth twice the fare,
Above land, lake and roadway
We'd do it again (tho' we don't know when)
If we can have it our way.

Mr. Average Motorist

by Pyke Johnson
Former President,
Automotive Safety Foundation

This is a reprint of a speech Mr. Johnson delivered before the Adcraft Club of Detroit on March 16, 1956.

THIS IS ABOUT the man that nobody knows in the highway transportation picture—Mr. Average Motorist.

That may sound like a paradox, because there are scores of millions of him in the United States today. But he has almost completely lost his identity in the mass of what we call "the motoring public." It's time to bring him into focus, as the nation enters an historic new era of highway development. But first, let's see why it is important to know him.

Going back briefly over the highlights of the 42 years which have elapsed since Congress authorized the first study of the role of the Federal Government in highway development, three salient facts emerge:

1. What with wars, depressions, inflation and shortages of materials, our highway program is running at least 10 years behind our increases in car population and movement.

2. When the Federal government began to take part in modern highway development, the problem was rural in character. So much was this true that the law specifically forbade expenditure of Federal funds in cities. Today, the emphasis is reversed. We are out of the mud and into the muddle. But, neither our attitudes toward the problem have caught up with the change, nor, consequently, have our laws. Doing the urban part of the job will be the largest single undertaking envisaged in the urgently needed, balanced program envisaged in the highway legislation now pending before Congress.

3. Realistically, whether stated in legal terms or not, the pending legislation brings us squarely to a new policy in highway financing at the Federal level. From now on, for 15 years at least, the person who is a direct user of the roads will pay for their costs and he will do it regardless of broad benefits to the national defense, the general welfare and related constitutional provisions. That being so, it would appear as a corollary that the needs, desires and habits of the motorist should be a ruling consideration in highway legislation, subordinate only to the public interest itself which usually he will reflect.

Mr. Average Motorist, of course, is a fiction. He doesn't exist. Most of us are motorists. Not one of us would accept the designation of "average."

But an attempt to get at the motoring "norm" is important if legislative and administrative as well as marketing practices are to meet the motorists' requirements. The point takes on added significance when it is remembered that we are dealing with some 72 million drivers of some 63 million motor vehicles. Of this vast fleet, about 85 per cent are passenger cars whose owners make use in one way or another of the commodities which are carried in the 10 million and more motor trucks in local or over-the-road services. All of these figures are increasing annually. Only road building has not kept pace.

By way of perspective, it should be noted that in the beginning the Average Motorist was a child of Fortune —not the "Put-Upon" he has since become in the minds of many. He had to be. Otherwise he could not have met the high costs, not alone of car ownership but of maintenance which existed when the industry was young. Nor did he have the far-flung facilities for use which we have today in the form of good, if often obsolete, roads and other services. More likely than not, he had to have a chauffeur-mechanic at his beck and call.

So he started out as a sportsman. He organized safaris in the form of Glidden tours. He killed numerous cows and chickens, antagonized the farmers generally, held races, organized his own motor country clubs and all in all, built up an atmosphere of luxury around himself and the car.

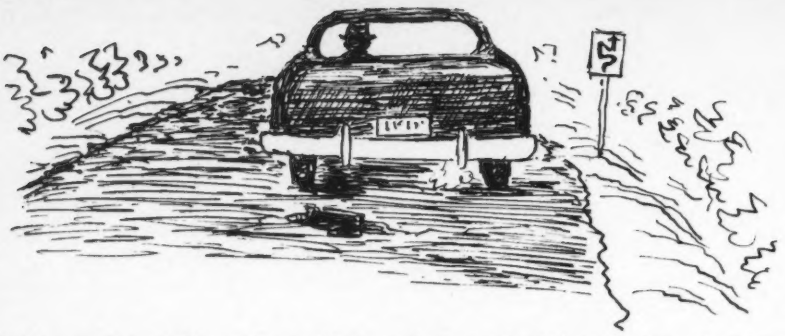
Not until the first World War brought the motor vehicle into focus as a major military weapon as well as an essential element in civilian supply lines here and abroad did that concept begin to change.

Throughout the lush twenties, and into the thirties, leaders of the automotive industry, led by a great American, the late Roy D. Chapin, fought unceasingly to broaden the slogan from one of "pleasure car" use to one of every-day family purposes. In 1923, a statement by President Harding that the motor vehicle had become an indespensable instrument in transportation was hailed as a great victory over horse and rail alike.

Ironically enough, it has taken the years of a cold peace, with their great upward surge of cars and car ownership, to almost completely divest the vehicle of any pleasure use. That obviously happened not through design but because of the collateral failure to provide roads incident to such use.

Still, in the approach to the motorist and his problems, there remain in many places vestiges of the old attitudes. Despite the daily evidence of our own eyes, we tend to visualize Mr. Average Motorist as the glamorous owner of a superb new car, flashing down the road in high vacation mood.

The time has come to take a new look at him. Let's see what trained observers have noted about him, about his use of the car, his ability to own one, his taxes, the roads he uses, his ability to pay for them. Fortunately, data for such a study is available in



Mr. Average Motorist drives a six-year old car, mostly over roads which are far from safe and are heavy on the pocketbook.

the highway planning surveys, the origin and destination studies of the state highway departments, and the Bureau of Public Roads; in the economic and vital statistics files of industry, the Bureau of the Census, the Federal Reserve Board and in other places.

In what follows, the speaker turned for guidance to the three wise men in this field. To Oscar P. Pearson, Chief Statistician of the Automobile Manufacturers Association; to E. H. Holmes, Deputy Commissioner, United States Bureau of Public Roads, and to Gene Miller, Director, Statistics and Research for the National Safety Council. The latter called also on John C. Kerrick of the Oregon State Motor Vehicle Division for some revealing facts about Mr. Average Motorist's driving behavior. Without their full cooperation, this paper could not have been prepared. While precise statistics usually are available, here figures have been rounded out to make for easier reading. In fairness to these men, it should be noted that the speaker takes full responsibility for any conclusions drawn from their data. They may or may not agree.

As of today, Mr. Average Motorist is a married man, slightly more than 40 years old. He is the father of two children, both of whom are likely to be in the teen-age group, one perhaps of driver age.

With his family he lives in the suburban section of a metropolitan area. Statistically, he owns more than one car, less than two. He drives regularly to work, traveling around five miles to get to his job. If he owns two cars, the chances are that his wife drives and that she uses the other vehicle to go shopping, usually a distance of two miles.

Two-thirds of all their use of the car is dedicated to business and shopping. Practically all the rest goes to such homely tasks as visiting the sick, going to church, or the movie, making friendly calls—the normal routine of the average American family. If they live in the country, the routine doesn't vary too much. The mileage is greater.

When it comes to vacation time, Mr. Average Motorist and his family will pile into the family bus—a four-door sedan—and start out on a 600-mile trip to the national parks, to the seaside, to visit friends. Much of that time will be traveling over interstate or main highways but the designations are not likely to mean much to them. All they are interested in is a safe and comfortable road.

However, when they are on a average main state highway, it will have a bituminous surface, be from 20 to 22 feet wide, be reasonably well maintained, but with rough patches. Shoulders will often be too narrow to permit off-surface parking. There will be hazards in the form of an occasional sharp curve, steep grade, and inadequate sight-distances. Off the main system, standards will usually be much lower.

In the country, our friend will travel at an average speed of 50 miles an hour on straight stretches during light traffic movement. (In the 1920's, his observed country average was 26 miles per hour.) He will exceed the speed limit at one time or another and he'll drive about three miles an hour faster in the other fellow's state than in his own. To maintain his average, he will travel over 55 miles per hour about one-third of the time and over 60 miles per hour about one-seventh of the time. The buses he meets will be going about one mile an hour faster and the trucks about six miles an hour slower.

When he can't travel from 45 to 50 miles per hour, Mr. Average Motorist considers the highway inadequate for his needs regardless of whether it is poor alignment or density of traffic which delays him. At times he will travel more slowly on a four-lane divided freeway than on a main road with intersections because what he's interested in is in maintaining an average speed. Freeway road conditions put him in the mood to do it.

At home or abroad, most of his travel will be in daylight hours. About one-fifth of his total movement will take place during two peak hours each day, the time when he or his prototypes are going to and from work.

He travels as fast at night as he does in the daytime except that he slows down when he meets oncoming traffic. He travels just as fast over an 18 foot road as he does over a 24 foot wide one, which is one of the many reasons why all roads should have adequate shoulders.

When he is traveling on a downtown city street he averages ten miles an hour in peak traffic and 15 miles at other periods—with the latter lessening as travel continues to grow. In the intermediate and outlying areas of the city he goes from 20 to 25 miles an hour, depending upon time of day.

Should he be on an urban freeway he will average from 30 to 35 miles downtown, and from 40 to 45 miles in the suburban areas.

In cities and towns, on crowded streets, Mr. Average Motorist wastes a lot of time and gasoline.

He will be delayed half of his driving time downtown, 20 per cent in the outer area if he's on a typical city street. All that lost time could be saved on an urban freeway which would serve him with only one-fifth the accident rate and one-half the fatality rate that he will encounter on the other roads. But, typically, at this time he doesn't have many such modern facilities to move on.

Well, that describes what he does with a car. Now let's have a brief look at him from the standpoint of how well he does it. In other words, how safe a driver is he?

Reading the press and listening to the reports from other media, there is a tendency to forget Mr. Average Motorist and to ascribe to him—which roughly means to all of us—daily commission of all the driving sins in the calendar. We tend to forget that, while very bad news, the accident indeed is the exception.

Mr. Average Motorist will not have more than one accident in five years. The grim possibility of his death while driving is about one chance in 4,000 and the chance of injury is one in 150, in any year.

Putting it another way, where in 1937 there were some 15 deaths per 100 million miles of travel, today there are 6.4—a shade above the lowest record in our modern highway history, made in 1953. That record has been made by Mr. Average Motorist in the face of mounting exposure every year arising from increasing travel and lagging highway development.

The average annual cost of an accident to him is around $100. No clean-cut national statistics on causes of accidents are yet available. Too often, the purpose of collecting them is to win a law suit rather than to prevent a future accident. The best records obtainable put a heavy emphasis on speed in fatalities. In non-fatal accidents, following too closely and crossing center line are chiefly responsible. Mr. Average Motorist does not drive when drunk.

A striking commentary on fatal accidents is brought out in case reports collected at random over a month's period from Oregon state records by John C. Kerrick, Manager of the Oregon Driver License Division.

In every one of 21 cases examined by Mr. Kerrick, the drivers involved in fatal accidents were sound in vision, had easily passed road tests. Their average age was 34. Only one was intoxicated. Re-examination in his judgment would not have disclosed the faults which resulted in fatalities. The sampling is limited but it is supported by similar reports from other qualified officials. It obviously points up the need for research into human reactions and their causes.

There are no statistics as yet to show how often Mr. Average Motorist becomes involved in an accident because he is late to supper or impatient so cuts out of a long queue line headed up by a slow-moving car on an inadequate roadway. Nor are there sufficient data to show precisely to what extent faults in highway design or highway markings—in their turn due to inadequate funds for highway development in the past—are causing loss of life, limb and property on the highway.

But the evidence does sustain the statement that Mr. Average Motorist doesn't go out on the highway to have an accident or to kill someone. Instead, he is constantly bettering his own record.

Unfortunately, we can't say yet that his teen-ager is getting adequate instruction in driving because only one in five of our potential drivers are now receiving behind-the-wheel instruction at public schools. But the number is growing and parents lacking school aid are doing a better job than they used to in seeing that teen-agers learn how to drive.

From his daily experience, Mr. Average Motorist recognizes the need for more highway capacity, but he probably doesn't know that the Clay Report to Congress revealed that we now have one vehicle for every 700 feet of all lanes of all roads and streets in the United States. He does know, however, that most of his driving is done in the metropolitan areas or on some part of the 700,000 miles of road out of a total of 3,300,000 miles which comprise the Federal-aid Interstate, Primary, farm-to-market and urban roads. That means he spends a lot of time in queue lines!

Probably, too, he isn't familiar with a recent report by the Bureau of Public Roads showing that since the war we have added to our road system 53,000 miles of additional lanes of highway. In the same length of time the car manufacturers turned out 200,000 miles of vehicles, bumper-to-bumper!

If we keep on building cars at this rate—and no one expects the makers to stop production—only a program of the magnitude of that now before Congress can save Mr. Average Motorist from transportation strangulation. Further, the costs of acquiring rights-of-way are going up with each year of delay in road building, as is the rate of accident exposure.

Now we come to some of the more surprising facts concerning Mr. Average Motorist. They have been held back to this point in order to establish clearly why he buys a car and some of the limitations which confront him in its use.

Here they are: Mr. Average Motorist's car is six years old and was *used* when he bought it at that. Further, whether he bought it at first, second or more hands, he paid for it or is still paying for it on credit.

Why? Well, a pretty good indication of the answer is that while the average income of the individual who buys a new car is $9,000 a year, the average income of Mr. Average Motorist himself is $3,600 a year. Moreover, while the new car owner will tick off 12,000 miles annually on his speedometer, Mr. Average Motorist will be using his a total of 8,500 miles. Remember what he *uses* it for.

Now just to complete his financial picture, let's look at the special taxes which Mr. Average Motorist pays annually for the right to use his car. The total figure runs about $91, which is less than the cost of his insurance. He pays $16 for his state registration fee, $34 in state gasoline taxes, $6 in local taxes on his car and tolls, and $35 in Federal excise taxes on gas, oil, repair parts, tires, etc.

If the Congress passes the pending highway legislation about as now written, Mr. Average Motorist will pay an annual increase of $7.64, in his gasoline and tire taxes. Trucks over 26,000 pounds will pay an additional tax of $1.50 per 1,000 pounds which finally will come back to Mr. Average Motorist because one way or another they're serving him.

Against those taxes, Mr. Average Motorist will be receiving a variety of off-setting benefits which he probably hasn't even taken time to look into. Here are a few illustrations:

1. Improvement of the 40,000 mile Interstate System, as contained in the pending legislation, will save indirectly at least 3,500 lives annually and reduce injuries and property losses correspondingly. Driving dangers will be materially reduced on other roads as improvement is quickened and traffic is redistributed.

2. A comprehensive freeway serving a metropolitan area would reduce average time of travel about 17 minutes each work day or about 66 hours a year for the average worker. Parenthetically, you who travel in town know those figures are extra-conservative. Suppose that the time saved was worth two cents a minute—that would average out at about $60 per year for all drivers, or the equivalent of a nine-cent a gallon gas tax.

3. If accident costs could be cut in half (and controlled access roads are at least twice as safe as other roads) the saving per vehicle would be $37.50 per year or the equivalent of a gas tax of five cents per gallon.

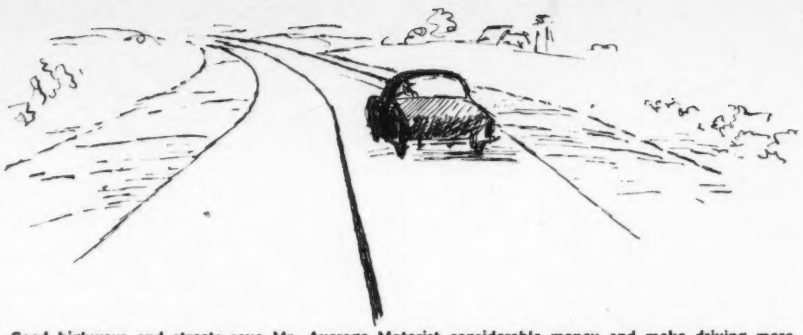
4. In a technical paper last year, Professor Moyer of the University of California found that fuel, tire and brake costs total on the average 1¼ cents more per vehicle mile on congested surface arteries than on free flowing expressways. That equals a 19-cent gas tax. He found, for example that a single stop at 35 miles per hour wears away as much rubber as a mile of travel.

Trying to look at this problem then through the eyes of Mr. Average Motorist, who turns out to be a reasonable character using the vehicle to bring up the standards of living for his family, certain conclusions begin to emerge.

1. In the light of his income bracket, as well as from the purely human point of view, he has to have roads built to standards adequate to permit him to move safely and comfortably and at the lowest possible cost.

2. His major pattern of road use is dictated by the necessities of every-day life, not by his vacation schedule. Since his residence is widespread, his shuttle use of the rural road quickly develops into a series of short-distance movements which add up to interstate and even transcontinental road needs, but Mr. Average Motorist is still using them largely for his daily pursuits.

3. Equally, in metropolitan areas, he and Mrs. Average Motorist develop well marked lines of travel either for business, shopping or social purposes. When he goes into the heart of the city, he wants to choose his own way of getting there. If he drives he wants parking areas reasonably close to his destination and reasonably priced. Alternatively, mass transportation must meet his ideas of cost and service. No effort to impose artificial restraints on his movements can be successful. While the working man may have to go to town against all obstacles, his wife won't and she's the one upon whose economic habits the inner core of the modern city now depends.



Good highways and streets save Mr. Average Motorist considerable money and make driving more of a pleasure and less of a worrisome chore.

4. The basic fact that the motor vehicle is genuinely an expression of freedom to travel where and when the individual wants to go requires the maintenance not alone of modern expressways but of an integrated, balanced system of roads. These must serve all the needs of the individual, who knows only that he wants to go safely from Point A to B and cares not one hoot what the road may be called so long as it serves that purpose.

5. The fact that his income is limited and that his travel pattern is based on short-distance trips indicates the long-range fallacy of any effort to impose tolls on any sections except those where natural bottlenecks create a monopoly. No roads are free roads today. Super-toll roads require freedom from competition to maintain their rates under normal conditions. Mr. Average Motorist can't afford to use toll roads every day nor can authorities refuse to give him competitive so-called free roads when he is paying for them.

From the public point of view, the more revenue that can be induced from non-toll road construction and use, the better. Mr. Average Motorist can pay service charges for frequent road use only when they are spread over a broad base.

6. The whole history of motoring to date as reflected in public opinion polls and as observed by trained students is an expression of a desire to make a constantly more efficient use of cars and roads as a medium for transportation. At times, Mr. Average Motorist wants to go places at more than average speed, but always safely. Since he is paying for it, he wants roads to be built so that he can travel that way. He doesn't tolerate the moron on the road any more than anyone else does but he wants a selective enforcement directed at that guy. He doesn't want to be accused of bad driving when he is traveling in accord with safe driving conditions.

At other times, Mr. — and importantly, Mrs. — Average Motorist want to feel that there is a place to drive in the country where they will be able to get a breath of fresh air and scenery without being confronted on all sides by flashing neon lights, billboards, or any of the other impedimenta that have been cluttering up our rural highways.

One more point may be added in the light of Mr. Kerrick's findings. Until we can have driver examination based on a far deeper insight into human behavior than we have today, we had better take a leaf out of the industrial safety handbook, and quicken all of our educational processes but at the same time act to make our highway facilities as fool-proof as possible.

Well, there is Mr. Average Motorist as the record shows him. He is a key figure in highway transportation and we can't afford to ignore him.

Let's recognize the gentleman for what he is—just an average American. And since we all belong to his clan, let's help him to win his main transportation objective—which simply is to have and use freely, safe and adequate highways.

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Marking the Interstate System of Highways

by Robert A. Burch (Mem., ITE)
State Traffic Engineer
N. C. State Highway Commission

The Subcommittee on Route Numbering of the Executive Committee of the American Association of State Highway Officials is presently considering several problems incident to marking of the Interstate System, among them the design of a suitable route marker and plans for its use. No interstate route marking will actually be undertaken until complete sections of the system between major centers are brought up to the new standards. A two-digit numbering plan, with north-south routes odd, and east-west routes even numbers, is tentatively planned. The marker design described by Mr. Burch in the following article is being evaluated along with others that have been submitted to the Subcommittee.—Editor.

THE INTERSTATE HIGHWAY SYSTEM which has been talked for ten years is now a reality. By this time next year certain sections of the System will be completed and in use and will be expediting travel movement. This long delay in decision and accomplishment, no doubt, has had many good and valuable points as well as the objectionable feature of not giving this needed service to the public. During the interim period the authorities and engineers have had an opportunity to study and devise plans, specifications and design standards which will make this system of highways usable and adequate for a greater length of time. During this ten-year period there has developed a much greater degree of "know-how" and as a result the System will be built to a higher design standard which will better fit the needs of the public and will serve the needs for many years to come and will become obsolete not nearly so soon.

During the waiting years considerable thought and study has been given to the type of facility, its adequacy and its life. However, little thought and study has been devoted to the operation of this System which admittedly will be a type of road different from that which is normally available to the average driver. The high design standards to which this road network will be built will necessarily require a new and different type of operation and reaction by the driver. The success of this high priced system of roads will depend directly on how well the driver knows how to use it.

There is a great need for study, research and decision to be made concerning the operation of the Interstate System. There is no question that it will be built to the highest and most desirable known standards that prevail today. The question is, does the average "Mr. Farmer" or "Mr. Laborer" know how to use this facility.

The new Interstate System will demand behavior different from that which is familiar and exercised daily on the average highway in the United States. The Interstate System is designed to accommodate foreign or long-haul trips rather than for short local use and as a result a majority of the drivers will be traveling through an unfamiliar section. All of this suggests more and better information for this unfamiliar driver.

The needed and necessary information to properly inform an unfamiliar driver while he is traveling this Interstate System will require bigger, better and more adequate signing.

There is a great need for a new and distinctive type of signing to be established and a new and distinctive type of route marker designated for use on these Interstate roads. As an example of this, one of the Interstate routes will enter North Carolina on US 1 then travel over US 158 then over US 15 and then on to US 70. All of this takes place in a distance of 60 miles. It is not fair for an unfamiliar driver traveling from the North to Florida to have to refer to a map four or five times within this short distance. There are many other reasons why the Interstate System should have a separate numbering system. One of which is that the requirements of design will necessitate that a large portion of this System be built on a new location. Even though the new location is traveling parallel to Route 1 the development along the old alignment of Route 1 will contend for the continuance of the US number through their community and this will bring on a multiplicity of routings and will necessitate "A" or "A-1" designations. All of this becomes confusing to a driver because of the non-standard practice among the states of designating the "A" routes. Also the work of mapping companies and travel agencies which supply trip maps when a marked route would have their work very much simplified, and would provide a much more usable service to their customers if they could designate on a map a suggested route of travel so that a person could leave New York and travel to Florida and follow the same numbered route the entire distance or to leave Philadelphia and travel to San Francisco without changing route numbers. A very real reason which involves economics is that a separate designation would greatly facilitate the erection of signs at junction points where other routes interchange with the Interstate System.

The various assortment of grade separations, clover-leafs and direct turn interchanges used in the construction of the Interstate System will be confusing to a majority of the drivers. Even the best and well-versed Traffic Engineer will sometimes become confused at these interchanges without a good and elaborate system of signing. It is

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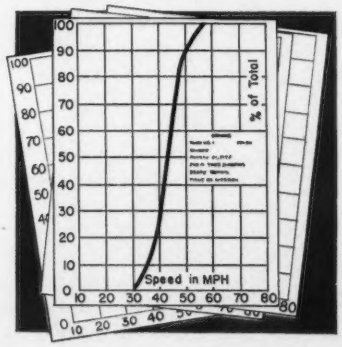

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Plate A
Suggested numbering for the 40,000 mile interstate system.

true that many turnpikes such as the New Jersey Turnpike, Pennsylvania Turnpike or the Los Angeles Freeway have been built and used satisfactorily which are similar to what will be built into the Interstate System. However, the people who use these existing turnpikes are familiar with conditions and the type of driving necessary. Even though they build up tremendous volumes on these existing facilities they still are not representative of the vast majority of drivers and they are a small segment of "Mr. America" as a whole. "Mr. Average Citizen" still has to be educated as to how to use the super-duper facilities. To educate the person who drives only on a vacation once a year or on the week-end it is necessary to make it as simple as possible for him. One aid in this is to have a distinctive marking for the route which he desired to follow.

On plate "A" is pictured the designated original 40,000 miles of the Interstate System. On this plate showing the total mileage there has been assigned a number to each highway. The method used herein in assigning a number to each mile of the Interstate System as shown is not necessarily the best way, but this is offered as a suggestion as being one way only. It is entirely possible that a much better system of numbering could be devised. The system used in assigning numbers is very similar to that which has been used in designating US numbered highways. For example, odd numbers have been used to designate north - south routes and even numbers have been used to designate east-west routes. Likewise, similar to the US numbered highways the low numbers begin at the east coast and increase as they extend to the west coast, and the low even numbers begin at the north and extend downward.

There is one exception to this rule, however, in that the first nine numbers which necessitate the posting of only one digit have been assigned to the major routes or rather those routes which extend entirely across the United States either north-south or east-west. The reason for assigning these single digit numbers out of order as far as geographical location is concerned is that it will permit the sign erector to give a route posting with greater target value without increasing the size of the sign due to the fact that he has to post only one digit for these longest and most important routes. Specifically numbers 1, 3, 5, 7 and 9 have been assigned to north-south routes with I-1 beginning at Houlton, Maine, and extending to Miami, Florida; I-3 extending from New Orleans to Chicago; I-5

from San Antonio to Duluth; I-7 from Las Cruces, New Mexico, to Billings, Montana; and I-9 from San Diego to Seattle. Likewise the single digit, even numbers have been assigned to cross country routes with I-2 beginning in Boston and extending to Seattle; I-4 from Elizabeth, New Jersey, to San Francisco; I-6 from Norfolk to Denver; I-8 from Charleston to Los Angeles; I-10 from Jacksonville to San Diego. With the exception of these single digit numbers other numbers have been assigned in sequence as nearly as possible beginning at the east and extending to the west and from the north to the south. The actual assignment of a number and what number is assigned is insignificant, but the important thing is to give a separate number to this Interstate System so that it can be followed through many states without changing of the route numbers.

Plate B
Suggested route marker with alternate red and blue diagonal stripes.

Plate "B" shows a suggested type of route marker to be used for this distinctive marking of the Interstate System. The shape is that of an "I" which would in itself signify Interstate routes. The colors used are those of red, white and blue taken from the American flag and suggested for use because the entire system is of universal service and primarily paid for by Federal funds. The shape is distinctive and the color is distinctive, either of which would be easily recognized and interpreted even though no message could be read on the sign. At route junctions it is frequently necessary to have a message other than the designation of a single Interstate route, and this requires carrying of numerals on the sign. The numerals displayed on the suggested specimen displays a numeral readily legible; however, the sign does not provide good legibility for the State name nor for the wording "Interstate" which is felt superfluous and not necessary. No doubt a better sign could be developed; however, it is felt that this sign does answer the need in having target value and something distinctive and different from any other type of sign.

Practically all of the existing toll facilities have adopted a standard sign distinctive for their particular highway. Their determinations have been a sign which is distinctive and not necessarily very legible. For example, the New Jersey Turnpike sign has good target value and is readily recognized as far as it can be seen; however, it is not legible and in order to read all of the message on the sign it is necessary to stop the car because it cannot be read at a low rate of speed. It has served a purpose.

It is hoped that the arguments set forth above will gain public approval sufficient to give support to the A.A.S.H.O. Committee or the Bureau of Public Roads, or any other committee who endeavors to effect a new and distinctive system of marking for the Interstate System.

1955 PROCEEDINGS

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Coming Events

Oct. 15-19—AMERICAN SOC. OF CIVIL ENG. —National Convention, Wm. Penn Hotel, Pittsburgh, Pa. Contact: ASCE, 33 W. 39th St., New York 18, N. Y.

Oct. 22-24 — AMERICAN STANDARDS ASSN. —Annual Meeting, Hotel Roosevelt, New York City. Contact: ASA, 70 E. 45th St., New York 17, N. Y.

Oct 22-26—NATIONAL SAFETY COUNCIL — 44th National Safety Congress and Exposition, Congress, Conrad Hilton and other hotels, Chicago, Ill. Contact: NSC, 425 N. Michigan Ave., Chicago 11, Ill.

Nov. 27-30 — AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS — 42nd Annual Meeting, Traymore Hotel, Atlantic City, N. J. Contact: AASHO, 917 National Press Bldg., Washington 4, D. C.

— 1957 —

Jan. 7-11 — HIGHWAY RESEARCH BOARD — Annual Meeting, Sheraton-Park Hotel, Washington, D. C. Contact: HRB, 2101 Constitution Ave., Washington 25, D. C.

Jan. 28-Feb. 2—AMERICAN ROAD BLDRS. ASSN. Annual Convention and Road Show, Chicago Amphitheatre, Chicago, Ill. Contact: ARBA, World Center Bldg., Washington 6, D. C.

Feb. 18-22—AMERICAN SOC. OF CIVIL ENG.— Convention, Hotel Heidelberg, Jackson, Miss. Contact: ASCE, 33 W. 39th St., New York 18, N. Y.

March 17-21—AMERICAN SOCIETY OF PLANNING OFFICIALS —Annual Planning Conference, Sheraton-Palace Hotel, San Francisco, Calif. Contact: ASPO, 1313 E. 60th St., Chicago 37, Ill.

Traffic Engineers Investigated By Fort Wayne Police

A car which periodically parked near the intersection of Lafayette and Oxford Sts. yesterday afternoon, left for about an hour, and kept returning aroused the suspicions of neighbors.

The car would park for about five or six minutes and then leave. In about an hour it would return and park for five or six more minutes. After this happened about six times, neighbors became restless and called police.

Patrolman Ray W. Stumpf was sent to the scene. He waited for the car to return and sure enough, right on schedule, it pulled up to the curb. As he approached to investigate he recognized the driver as C. J. Ruch, who explained he was operating a traffic counter for the Traffic Engineers Division.

From Journal-Gazette, Fort Wayne, Ind.

San Antonio Looks Ahead

by Stewart Fischer
(Assoc. Mem., ITE)
City Traffic Engineer, San Antonio, Texas

THE ADMINISTRATION of the City of San Antonio, Texas, believes that traffic improvement is one of the most important services it can render the public. It is recognized that traffic flow is the life-blood of any city, and steps must be taken to avoid municipal stagnation.

San Antonio, with a population of 525,000 and a vehicle registration of 240,000, is an old city having been founded in 1718. The street pattern follows the original trails giving rise to a local legend that "San Antonio's streets were designed by a drunken Indian riding a blind burro." Complications arise from the fact that the original right-of-way requirements were twenty Spanish varas (55.6 feet), which limits most streets to a roadway width of 44 feet.

Growth problems have also hit San Antonio in the past 15 years with a resultant demand for traffic facilities. Since 1940, the population has more than doubled while annexation has mushroomed the area from 40 to 154 square miles. Problems such as these are not unique to San Antonio. In solving the traffic problems which they have brought to our city, use has been made of techniques developed in similar cities as well as innovations of our own.

Traffic Engineering Division

All of the steps taken to improve traffic flow are coordinated by the Traffic Engineering Division of the Public Works Department. This Division was established in 1952 with a very limited budget, and only one person to do the required engineering. A recognition of the function of proper traffic engineering has resulted in a growth of the Division until it has a qualified staff and an operating budget of approximately $600,000 at the present time.

The modern shop facilities of the Division are an important part of its operations. It has all the equipment needed for silk-screen processes, spray painting, attaching reflective sheeting to sign blanks and producing hand lettered signs or art work. Approximately 1,500 miles of lane markings are also a part of the program. Traffic signals on outlying major arteries are being modernized by installing multi-dial interconnected or traffic-actuated equipment depending upon the traffic requirements.

Downtown Signal System

The traffic signal system in downtown San Antonio was installed in 1922. While it was adequate then, today it is more of a museum piece since it has only one method of operation regardless of the traffic conditions.

A typical installation uses old railroad signals with one red and one green lens and the amber a suspended fresnel lens. A "homemade" pedestrian signal is included, consisting of a small box containing two lamps with a red lens on the top on one side and a green lens on top at 90 degrees. On the bottom the red and green lenses are reversed. A completely new signal system is being designed through close coordination between the Traffic Engineering Division and the electronics engineers of the City Public Service

Fig. 1
Type traffic signal now in use in downtown area. This equipment will all be replaced as a part of the downtown signal system.

Security risk ?!?

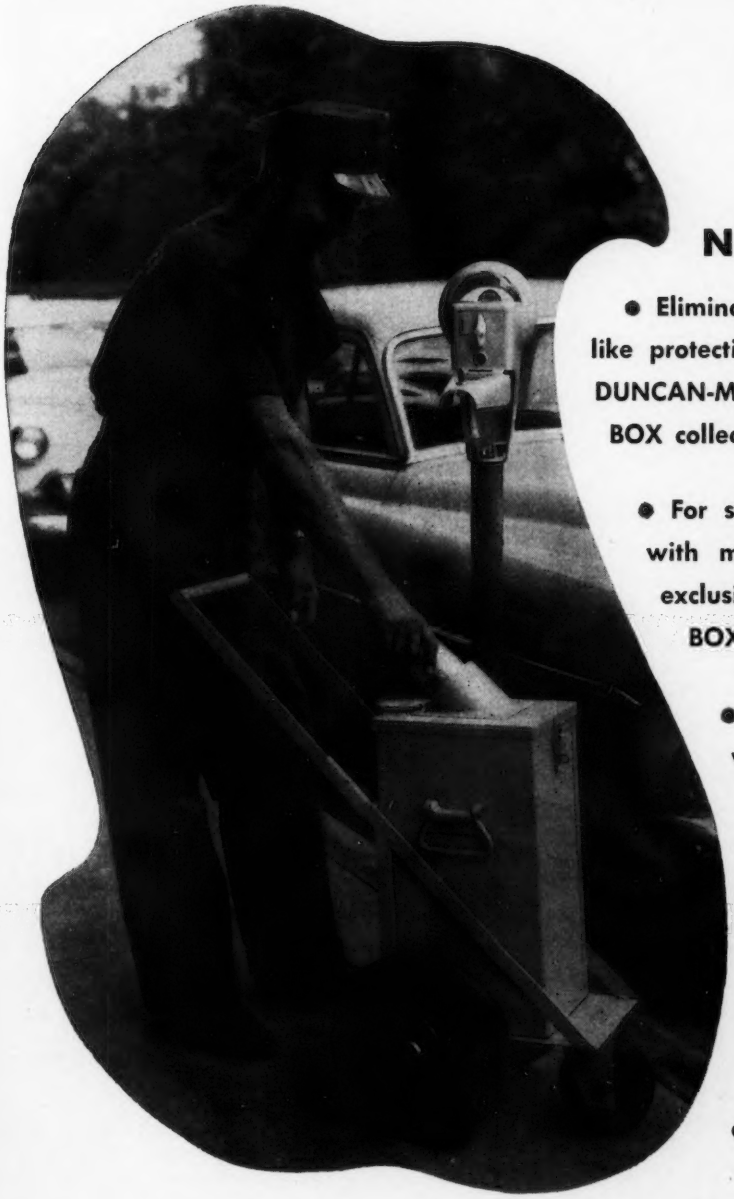

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Fig. 2

Scene showing installation of conduit for the downtown signal system. The sign in the center is displayed to improve our public relations, and to reduce the number of complaints about congestion.

Board, a municipally owned utility. The Public Service Board will purchase, install, and maintain the equipment, thus affecting an initial savings to the City of $535,000. The responsibility for the traffic design and operational control of the system rests with the Traffic Engineering Division.

The control equipment will be completely electronic. It will consist of a traffic-responsive master control supervising the operation of 184 local intersection controllers. This new type master control has been installed recently in several major cities. Its ability to anticipate congestion and eliminate traffic tie-ups has been proved. Its suitability to our signal needs here in San Antonio is obvious.

Efficiency of the San Antonio master control will be better realized by the new type secondary controllers used at the 184 intersections that make up the system. These all-electronic units incorporate radically new features of design and operation. They give coordinated signal operation a flexibility, efficiency and reliability far in advance of anything previously available. Our installation of 184 units will be the first large scale use of these modern local intersection controllers by a major city.

The local intersection controllers will be pre-set to produce on demand from the master control the many different programs of traffic signal operation needed to serve San Antonio traffic. Their range of operation will cover five offsets, (inbound, outbound, average, simultaneous and free), three cycle splits and six cycle lengths. These will be selected by traffic flow through the master control, and theoretically will provide 90 possible variations in system timing. As traffic conditions change in downtown San Antonio, the signal operation will be automatically adjusted. And, while signal operating adjustments are made, continuity of signal operation will be maintained. When the master control detects a change in operation of the system, a need for the change will be started immediately by the local intersection controllers and be made quickly and smoothly. Unlike mechanical signal controllers, San Antonio's new control equipment will be able to affect changes in signal operation without introducing discontinuities or interruptions in the signal cycle.

Due to the electronic nature of the entire system, it is possible for the reset position of the local controller to go forward or backward in time. Thus it is unnecessary for the reset to move more than 50% of a cycle length. This finesse in responding to changes upon instruction from the master control coupled with the ability to produce a variety of signal operating plans will give San Antonio's traffic signal system unmatched flexibility.

The installation of the signal system is unique in that it will be completely new in all respects. This includes 21-conductor interconnecting cable, 15-conductor signal cable, double vision post mounted vehicle signals, and neon grid pedestrian signals (see Fig. 2).

Freeway and Street Improvements

Even with the improvement of present traffic facilities, it will be necessary to supplement the existing street system with new construction or major reconstruction of certain streets. A comprehensive metropolitan area traffic survey, costing $125,000 is being conducted by the City of San Antonio and the Texas Highway Department. This survey will be the basis for determining the location and design of all future traffic handling facilities. Only by the use of the basic engineering data that can be obtained by such a survey is it possible to provide traffic arteries that will be adequate in the future.

San Antonio is a highway hub with three interstate and two primary system routes converging upon it. The design and construction of freeways on these routes is done by the Texas Highway Department as a high-priority project. (See Fig. 3) The freeway program for San Antonio will include three freeway loops and nine radial freeways extending to the limits of the metropolitan area. At the present time, funds are available for an additional sixty million dollars worth of freeway work which will be contracted as soon as plans can be prepared, and right-of-way cleared. When it is completed, the

Fig. 3
View of U.S. 81 Freeway south of Central Business District looking north.

freeway system will provide major relief to the congestion problem.

The City has bond money available to rebuild approximately 60 miles of arterial streets. This program, aimed at developing these streets to their maximum capacity, will be completed in two years.

Adequate street lighting promotes the safe and efficient flow of traffic after dark. San Antonio has had a continuing program of arterial and residential street lighting in conjunction with the City Public Service Board so that today more than half its street mileage is adequately illuminated. This program will continue until all streets have sufficient illumination, and San Antonio reaches its goal of being America's best lighted city.

Through the coordination of the agencies concerned, progress is being made to relieve the City's most pressing problem. Traffic improvements are reflected in San Antonio's re-awakened civic pride, and a surge of municipal strength.

MOTOR VEHICLE DEATHS AND DEATH RATES

1954, 1955, and 1956

Month	1954	1955	1956	1954-56 Change	1955-56 Change
January	2,816	2,820	2,960	+ 5%	+ 5%
February	2,472	2,300	2,710	+10%	+18%
March	2,503	2,640	2,960	+18%	+12%
April	2,589	2,740	2,960	+14%	+ 8%
May	2,877	3,050	3,170	+10%	+ 4%
June	2,748	2,980	3,400	+24%	+14%
July	3,044	3,400	3,570	+17%	+ 5%
Seven Months	19,049	19,930	21,730	+14%	+ 9%
August	3,214	3,530			
September	3,070	3,400			
October	3,478	3,880			
November	3,253	3,600			
December	3,522	3,960			
	35,586	38,300			

All 1954 figures are from the National Office of Vital Statistics.
All others are National Safety Council estimates.

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- ✔ **LARGE SIZE**—Standard 4′ x 8′; extra length solid panels to 12′; oversized scarfed panels available on special order.
- ✔ **CHOICE OF THICKNESS**—From $^5/_{16}$″ to $1^1/_4$″.
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Traffic News

ASCE Convention to Spotlight Road Problem

Challenging new and complex problems which face engineers, designers, city planners, municipal officials, contractors and others in carrying forward the nation's great road modernization plan will be the focus of attention in the Highway Division sessions at the ASCE annual convention Oct. 15-19 in Pittsburgh.

Highway activities for many years to come will revolve around the expanded national program. The timely issues—technical, administrative and legal—to be explored at the four sessions therefore will be matters of continuing interest and importance, and a record-breaking attendance is expected. Special field trips to inspect elements of the host city's famed redevelopment plan will serve to dramatize the strategic role of highways in urban renewal.

With the broad theme, "Expressway Problems Unlimited," two of the sessions will deal with basic questions and emerging concepts relating to the widespread use of limited-access design for safe and uninterrupted high-speed highway transportation. These meetings will be in the form of symposiums, with ample time allowed for panel discussion and queries from the floor.

Engineering management, administrative controls, traffic prediction problems and pertinent legislative and legal aspects will be topics featured in one symposium. Speakers will include Dr. David R. Levin, Chief, Land Studies Section, Bureau of Public Roads; Joseph D. Buscher, Special Assistant Attorney General, Maryland State Roads Commission; Samuel P. Brown, partner, Coverdale and Colpitts, New York City; and Edward J. Donnelly, partner, J. E. Greiner Co., Baltimore. E. H. Karrer, Chairman, Executive Committee, Highway Division, and Professor of Civil Engineering, Ohio State University, will preside.

Development of expressway plans and specifications and problems of maintaining uninterrupted operation on limited-access facilities will be discussed in the second symposium, to be chairmaned by Harmer E. Davis, member, Executive Committee, Highway Division and Director, California Institute of Transportation and Traffic Engineering. Also holding the center of the stage will be papers on the contractor's problems in improving construction efficiency and economy, and on significant aspects of contract engineering on highways.

Panel speakers in the latter session will be Richard A. Haber, Chief Engineer, Delaware State Highway Department and the Delaware Interstate Highway Division (Toll); Nomer Gray, associates, Amman and Whitney, New York City; Charles E. McKee, Executive Secretary, Ohio Contractors' Association; and H. G. Yeager, General Maintenance Superintendent, Pennsylvania Turnpike Commission.

Other speakers at the convention include: Wm. R. B. Froehlich, Pittsburgh Public Parking Authority; Joseph Barnett, U. S. Bureau of Public Roads; Rex M. Whitton, Missouri Highway Department chief engineer and AASHO president; and Fred Burggraf, Highway Research Board director.

Florida Holds TE Refresher Course

The Traffic and Planning Division of the Florida State Road Department recently held a "refresher" seminar on traffic engineering at headquarters, Tallahassee. About 40 people participated in the course, which ran from July 30 through August 3.

Leading signal companies participated in technical sessions by lectures and demonstration of equipment. Most of the sessions were concerned with traffic and planning activities as they related to the Road Department. Traffic officials from Ocala, Tallahassee, and Tampa were also present.

ITE members who attended were: John W. Barr, Florida State Road Department, DeLand, Florida; Roy Fielding, General Electric Corporation, Hendersonville, North Carolina; Frank M. Holloway, Florida State Road Department, Tallahassee, Florida; Edward A. Mueller, Florida State Road Department, Tallahassee, Florida, and Junius H. Payne, Florida State Road Department, Tallahassee, Florida.

The 9th Annual Northwest Engineering Conference was held on the campus of Oregon State College at Corvallis, Oregon on May 8-9. Over 100 registered for the conference from Oregon, Washington, Idaho and California. Four of the participants on the program are shown in the photograph. From left to right: Val Johnson, Traffic Control Engineer, Oregon State Highway Department; Al Hutchison, Assistant District Engineer, California Division of Highways; J. Al Head, Assistant Traffic Engineer, Oregon State Highway Department; W. A. Rusch, Staff Director, National Committee on Urban Transportation, Washington, D.C.

Northwestern University Opens Transportation Center at Evanston

A unique attack on the problems of a basic industry began October 5, when the Transportation Center at Northwestern University launched its national program of research, education, and service.

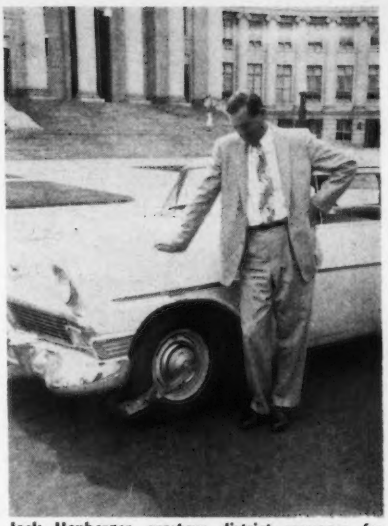
Organized specifically to meet the need for a fresh and integrated approach to transportation problems of steadily increasing complexity, the Center represents a new phase in industry-university cooperation. With substantial support from all segments of America's transportation system — railroads, airlines, ocean and inland waterway shipping lines, pipelines, and highway transport — the new Center will operate within the administrative framework of Northwestern.

Fred G. Gurley, chairman of the Center's Advisory Committee and president of the Atchison, Topeka and Santa Fe Railway Company, has summed up the Center's meaning and potentials in this way:

"Northwestern is giving the transportation industry an opportunity to make a profitable investment—one that will pay us substantial dividends in the form of better-trained men for the transportation field, unbiased research on a scale no industry is equipped to carry on, and expert consultative services."

In addition to providing research and consultative services to the industry, the Center will offer undergraduate courses, studies at the graduate level leading to a Master's degree, and special courses for personnel in the transportation field. Its organizational plans call for a staff of 50; an ultimate annual budget of $1.5 million; and the development of the "most complete" transportation reference library in existence.

Director of the Center is Franklin M. Kreml, on leave from the internationally known Traffic Institute at Northwestern, which he founded. He has been working in close cooperation with the Center's 22-member Advisory Committee of transportation leaders in planning the basic services to be offered.



Jack Henberger, western district manager for A'G'A and ITE member, recently visited Denver on his vacation, and rented a car while there. Apparently the previous renter had some traffic tickets outstanding, because this is the way Jack found his car one day outside Jack Bruce's office. Is this the way they keep visitors in Colorado one more day?

Kreml points out that the Center represents the first industry-wide effort aimed at studying America's transportation system as a whole, instead of limiting such study to special areas.

He stresses that only at a university can such a study be undertaken effectively, for, he says, the research facilities, educational resources, and objectivity of approach necessary to achieve the goals the industry seeks are available only at a university. The goals sought by the industry, he continues, are practical and realistic answers to the basic problems that inhabit every field of transportation.

Uniform Vehicle Code Amended

The National Committee on Uniform Traffic Laws and Ordinances, meeting in Chicago the last week in July, adopted numerous changes to the Uniform Vehicle Code in acting upon reports of nine subcommittees. Important changes in the Uniform Code approved by the Committee included:

- **Provisions defining the legal meaning of "YIELD" signs, also one requiring the completion of an overtaking and passing maneuver before reaching the beginning of a "No Passing" zone;
- **Absolute speed limits (in lieu of present prima facie limits) with a maximum limit for rural highways of 60 miles per hour, 30 mph in built-up areas, and a new limit of 45 mph for vehicles towing house trailers. Elimination or modification of the lower night limit will be submitted to mail vote;
- **Extension of police officer's authority to arrest for specified serious offenses, such as driving while drunk and hit-and-run;
- **Various changes in lighting requirements, such as increase in number of auxiliary passing and driving lamps, and amendment of farm equipment lighting requirements and permissive use of three identification lamps on front and rear of vehicles over 80 inches wide;
- **Regulation of hydraulic brake fluid.

All changes will be available soon from the National Committee on Uniform Traffic Laws and Ordinances, 1604 K St. NW, Washington 6, D.C.

Carnegie Tech Teaches Traffic for First Time

During the school year that recently closed, Carnegie Institute of Technology in Pittsburgh, Pennsylvania introduced a course in Traffic Engineering into the curriculum of the Civil Engineering Department. The course was presented in the Evening School, and was opened to both day and evening students. A class of 27 civil engineering undergraduates enrolled for the course, which was taught by Michael J. Gittens, Traffic Engineer for the City of Pittsburgh, and a graduate of Carnegie Tech.

Members of the first class in traffic engineering at Carnegie Tech inspect a traffic signal controller.

The text book entitled, "Traffic Engineering" (Matson, Hurd, Smith) was used by the class in addition to other reference material. The interest that developed in the course led Dr. Frederic T. Mavis, Head of the Civil Engineering Department, to conclude that there is a definite need for a Traffic Engineering Course in his Department. Future plans contemplate a continuation of the course.

"Operation Crosstown" A Success, N. Y. Auto Club Survey Shows

Operation Crosstown, a 60-day test by the New York City Department of Traffic of special traffic rules forbidding the standing of vehicles on six major midtown streets, was called a success in a special report by the Automobile Club of New York, which has been conducting independent traffic engineering studies of the project.

The experimental plan covering 48th to 53rd Streets between Third and Eighth Avenues was officially scheduled to end August 6. A comprehensive analysis of traffic movement in the area by the auto club showed that delays have been cut 35 per cent and travel time has been reduced 18 per cent while the volume of vehicles has increased 15 per cent since new traffic regulations were put into effect on June 5.

The rules forbid the standing of vehicles at the north curbs of the six test streets from 8 a.m. to 1 p.m. and at the south curbs from 1 p.m. to 7 p.m. daily, except Sundays. This procedure permits vehicles to load and unload along one side of the street while the opposite curb lane is kept open for moving vehicles.

Time runs conducted by several teams of auto club observers traveling continuously over 10-hour periods both before and after the trial plan went into effect showed that the average crosstown trip time was reduced from 10.18 minutes to 8.27 minutes in the Operation Crosstown area. Delays due to pedestrians, parked vehicles, loading, unloading and other causes were reduced from an average of 5.48 to 3.47 minutes along the eight-block test routes.

A significant difference in maximum trip times was also noted by the auto club observers. Where the longest trip had previously taken 44.9 minutes, under the new traffic regulations none lasted more than 21.3 minutes. The survey also showed that only 31 per cent of all trips took more than 10 minutes under Operation Crosstown conditions, while previously 63 per cent were in this category. The significance of these findings, according to the auto club's traffic engineers, is that they demonstrate a uniform improvement in traffic movement at all times during the day, not just at isolated periods.

The greatest improvements were registered along 51st Street, which was also the most congested of the six streets. Average time savings of 34 per cent and reductions of 55 per cent in delays were recorded. Only 22 per cent of the trial trips along this street consumed more than 10 minutes as compared with 78 per cent before the traffic experiment was started.

The auto club's observations were obtained from 181 trial runs on Wednesday, May 23—13 days before the new regulations went into effect—and on Wednesday, June 13 — after they were in force for eight days.

Summarizing the results of these traffic checks, the auto club commented: "An impressive example of what can be done to make the best use of existing facilities, Operation Crosstown did not involve major reconstruction or the expenditure of large sums of money. Nevertheless, it has eased traffic congestion in one of the critical areas of the city."

Congress Creates New Post of Federal Highway Administrator

Authorization for appointment of a Federal Highway Administrator in the Department of Commerce passed the Senate and the House in a rush of last-minute business.

The bill (S.4164), introduced by Sanator Frank Carlson (R., Kansas) states: "Notwithstanding any other provision of law or regulation, the head of the Bureau of Public Roads in the Department of Commerce shall be a Federal Highway Administrator appointed by the President by and with the advice and consent of the Senate."

It also provides that basic compensation of the new administrator shall be "at the rate prescribed by law for Assistant Secretaries of executive departments." This rate is currently $15,000 per annum but was raised by the Federal Executive Pay Act of this year to $20,000 per annum.

A further provision of S.4164 raises the salary of the Commissioner of Public Roads from the present rate of $15,000 per annum to $17,500. The Commissioner, to be appointed by the Secretary of Commerce, will "perform such duties as may be prescribed by the Federal Highway Administrator."

Progress of S.4164 during the last week of Congress was very swift.

Originally referred to the Senate Committee on Post Office and Civil Service, its substance was incorporated, in a surprise move, in the Federal Executive Pay Act.

It was stricken from this bill on the Senate floor, upon the motion of Senate Majority Leader Lyndon Johnson, on Friday, July 20. The Federal Executive Pay Act passed later that same day.

Before the day was over, S.4164 had been referred to the Senate Public Works Committee and hearings had been set for the following Monday morning. Also pending before the Committee was S.4152, introduced by Senator Albert Gore (D., Tenn.) This bill would have removed the Bureau of Public Roads from the Department of Commerce and established a Federal Highway Commission in the executive branch of the Federal Government.

Appearing before the Senate Committee, Secretary Weeks urged passage of S.4164 with amendments to Sections 3 and 4. Both amendments were adopted. One provided for the raise in compensation for the Commissioner of Public Roads. The other amendment struck from the bill the provision for Presidential appointment of another Assistant Secretary in the Department of Commerce. Secretary Weeks said of the proposed Assistant-Secretaryship, "I acquiesce . . . in the plan to delay consideration of this matter until the next Congress."

Also testifying at the Senate Public Works Committee hearings was Rex M. Whitton, President of the American Association of State Highway Officials. Mr. Whitton told the Public Works Committee that a consensus of highway department heads meeting in Chicago recently, was that "there is hardly time afforded (at this session of Congress) for the complete study and deliberation that should be given to setting up any administrative changes affecting the Federal Road agency."

Soon after the Senate Public Works Committee ordered reported out, as amended, S.4164, the House Public Works Committee held an executive meeting, taking the same action. The Bill was passed in both Houses without floor discussion.

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gives the motorist time to be safe!

STOP
AVERAGE STOPPING DISTANCE 132 FEET AT 40 M.P.H.
BRAKING DISTANCE
ALTHOUGH GROTELITE STILL CLEARLY LEGIBLE, IT'S TOO LATE TO HEED WARNING OF ANY TYPE IN THIS DANGER ZONE.
REACTION DISTANCE
GROTELITE SS CLEARLY LEGIBLE THROUGHOUT THIS DISTANCE!
GROTELITE SS VISISLE HUNDREDS OF FEET BEFORE THIS POINT!

Too late to be warned, or *time* to be *safe* . . . Grotelite SS can make the difference! The traffic control sign reflectorized with Grotelite SS provides outstanding target value. It *alerts* and *warns* at the greatest distance from the point of danger. Through the blackest night, in any weather . . . Grotelite SS can be seen *farther*, seen *clearer*, seen *quicker* by the motorist!

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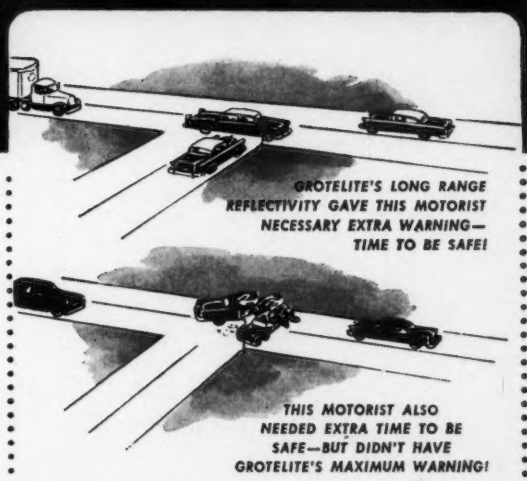
GROTELITE'S LONG RANGE REFLECTIVITY GAVE THIS MOTORIST NECESSARY EXTRA WARNING— TIME TO BE SAFE!
THIS MOTORIST ALSO NEEDED EXTRA TIME TO BE SAFE—BUT DIDN'T HAVE GROTELITE'S MAXIMUM WARNING!

GROTELITE SS is available in precut sheets for easy application. Also available on finished signs of all types. Four colors: yellow, red, green and silver (white).

Send *today* for Catalog No. 754-T . . . and for *complete facts!*

"Everyone in our Highway Division was greatly impressed by your demonstrations on target value. Grotelite certainly lives up to your claims!"
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NO LEFT TURN
NO PARKING
Grotelite
SPEED LIMIT 50

THE GROTE MANUFACTURING COMPANY, INC. • Established 1901 • Bellevue, Kentucky • Opposite Cincinnati

New Appointments

Jaffe New Evansville Traffic Engineer

Robert L. Jaffe (Jr. Mem., I.T.E.) was recently appointed Traffic Engineer for the City of Evansville, Indiana.

The Traffic Engineering Department, under the Board of Public Safety, is responsible for the supervision and coordination of all the traffic engineering functions in this city of about 130,000.

Robert L. Jaffe

A mechanical engineering graduate of Yale University, Jaffe served in the Navy's Civil Engineer Corps with the Pacific Seabees.

Returning home to Pittsburgh after the war, he worked for a time in the steel industry before going to work with Dwight Myers and Roger Chandler in the newly formed Traffic Engineering Department in Providence, Rhode Island.

After nearly six years as Operations Engineer, he resigned last fall to attend the Yale Bureau of Highway Traffic with the help of his wife and three boys.

Bob has lost no time in affiliating with the Indiana Section of the ITE and looks forward to a great time with the "not quite midwest" group.

Holloway Goes to Florida Road Dept.

Frank M. Holloway, (Jr. Mem., ITE), has recently accepted an appointment as a Traffic Engineer with the Traffic and Planning Division of the Florida State Road Department. Before moving to Tallahassee, Florida, Holloway was a Research Engineer on the staff of the Joint Highway Research Project, Purdue University, for two years. While there, he was engaged in the performance of traffic and research studies and the fulfillment of the requirements for a M.S.C.E. degree awarded in June, 1956.

Frank M. Holloway

A native of the Lafayette area, Holloway first entered Purdue in September, 1946, and graduated with the B.S.C.E. degree in February, 1950. He spent most of the time during the next four years as a civil engineer with the Illinois Division of Highways after which he joined the staff of Purdue.

His activities in Florida will be largely concerned with geometric and traffic planning of various urban expressway and interstate programs. In addition to his ITE membership, he is a Registered Professional Engineer in Illinois and Indiana. He is also affiliated with Chi Epsilon civil engineering honorary and the Society of Sigma Xi.

Sawhill Joins CE Faculty At University of Washington

Roy Sawhill (Associate Member, ITE) has resigned as Associate Traffic Engineer for the City of Seattle to join the faculty of the University of Washington as Assistant Professor of Civil Engineering.

The new appointment is a return to his alma mater where he received his B.S. in C.E., as well as a four year letterman's award on the swimming team. He has also been affiliated with the University over the past four years as a part-time Research Engineer for the Washington State Council for Highway Research.

Roy Sawhill

After a year of highway engineering with the State of Washington, he continued his education at the University of California at Berkeley where he received the degree of Master of Engineering in Transportation and Traffic Engineering from the I.T.T.E.

For more than four years, Sawhill has been with the Seattle Traffic Division in the capacities of Survey, Research and Traffic Control Device Design Engineer.

Sawhill's specialty courses at the University will be Traffic and Highway Engineering. With allowed time, he expects to remain active in the Traffic Engineering field by research and consulting services.

Sawhill is a registered Professional Engineer in the State of Washington and is an Associate Member of the Society of the Sigma Xi. He is a reserve officer in the U. S. Navy Reserve, CEC.

LETTERS TO EDITOR

More On Speed

President Prisk in his letter of May 8, 1956 to all members suggested that they should send in articles for TRAFFIC ENGINEERING.

The writer had one printed only a few months ago (January, 1956, page 167). It was entitled "Speed Traps and Safety," and to this the then editor added another headed "Open Discussion."

There followed no discussion, open or otherwise, and the writer was about to accept the idea that traffic engineers were not interested in speed traps, when two articles dealing with the subject appeared in two successive issues of TRAFFIC ENGINEERING, June and July.

While it cannot be assumed that these articles were written in response to the editor's call for an open discussion, nevertheless they deal with the same subject, and the writer may be excused for offering a few comments.

The July article entitled "Slow Traffic Laws Waste Fast Roads" by J. Edward Johnston (Mem., ITE) fairly bears out every conclusion made in the writer's January article.

Now traffic engineers do not make laws, but they can, as specialists in matters of traffic arrangements and safety, influence lawmakers to a considerable extent. This brings us to the sad task of commenting on the other article referred to in the beginning, an article entiled "The Traffic Ticket" by Walter Seymour, Member, Detroit Bar Association (June, 1956).

The substance of the entire article is that "the law must be obeyed." Well, we knew that. We were told 60 years ago while still in school that "ignorance of the law is no excuse for breaking it," and if ignorance is not an excuse, there could hardly be any other.

This sterile viewpoint can hardly be expected to promote safety; it may make the jobs of policemen and judges safe but not the lives of motorists or pedestrians. The principal cause of accidents is not speed except in a few cases. The Chicago Park District, which has as good a police department and traffic engineering department as can be found anywhere, found that speed was the principal cause of only 8.6% of their automobile accidents (first six months of 1955).

Safety is the one and only excuse for traffic regulations; even regulations aimed at keeping traffic moving — like parking bans, for example—are in the last analysis safety measures, as congestion invites confusion and accidents. The average motorist who has done nothing else than drive his car down a public street at a safe and reasonable rate of speed, although in excess of some artificially conceived legal maximum, is not impressed when he is told that he has violated a law—hence the lack of public interest in safety and the killing of close to 40,000 people every year in automobile accidents.

In this country a person is supposed to be innocent until he has been proven guilty. Traffic courts do not respect this American principle. In many cases of so-called violations there is no proof of guilt at all; a policeman simply makes the charge, the judge may pretend to listen to the defendant, but in the end he accepts the policeman's story. Such cases—and they happen—may explain how an article can appear in a magazine of nation-wide circulation entiled "Traffic Courts—Blot on American Justice."

Here is an obvious task for the learned jurist and others of his profession who desire to promote safety. Legislatures at all levels have plenty of lawyers among their members who can consequently exert considerable influence on the making of laws. Then if the traffic engineers will advocate more sane and realistic speed limits—or no limits at all, as the writer observed in several countries abroad—we may get the public interest in safety measures which they deserve. They need it!

KAY LORENTZEN
Planning Engineer
Chicago Transit Authority

August 22, 1956

(Continued on page 34)

POSITION AVAILABLE

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Position: Assistant Traffic Engineer
Requirements: Graduate Engineer with two years traffic experience
Salary: $485 to $635 per month. Starting salary between $485 and $530, depending on qualifications
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LETTERS TO THE EDITOR

(Continued from page 33)

Experience with Yield Signs

I would like to add a little more information to the article that appeared in TRAFFIC ENGINEERING, January, 1956 on the YIELD sign. Before I begin, however, I would certainly like to send my compliments to Don Berry and James Kell for the basic research on the YIELD installations.

The correct usage of this sign has been one of considerable debate in our State since the passage of the Yield-Right-of-Way Law by our State Legislature last May. A few small towns liked the sign and have promiscuously installed some at various intersections. Not much thought was given to the approach volumes nor to establishing a planned system of traffic movements. For the most part, they were installed in residential areas to control side street traffic on a through street. Here, the volumes were light but in order to keep the facility as a through street, a definite assignment of right-of-way was necessary.

Two Wyoming installations are worthy of your consideration, one in an urban area and the other in a rural area. The significant point of the first intersection is the conflict noted with the conclusions of Berry and Kell. Although I heartily agree that the YIELD signs should be placed on the approaches with the lower volumes, it is evident that a marked reduction of accidents was achieved with the signs located on the approaches with the heavier volumes. These YIELD signs were installed by a local police officer who wanted to slow down the north-south traffic, so he did not count the vehicles, but rather located the signs with approach speeds as the only criteria. A count was recently made at this intersection which showed that the YIELD signs were placed on the heavier approaches as far as traffic volumes are concerned; yet, it appears that the accidents have been reduced considerably at this intersection. (See Fig. 1)

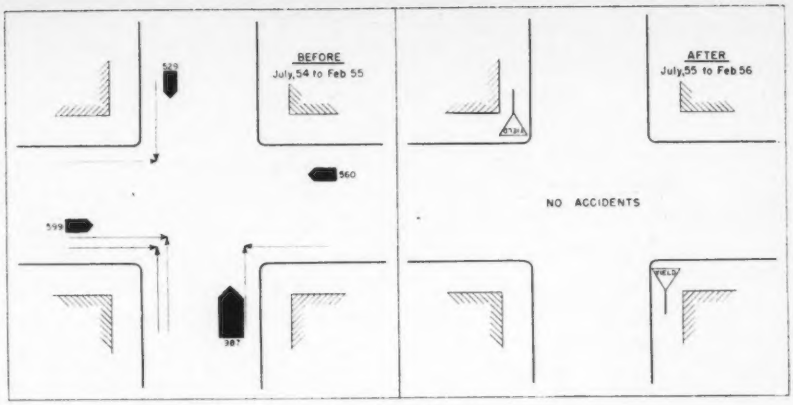

Figure 1.

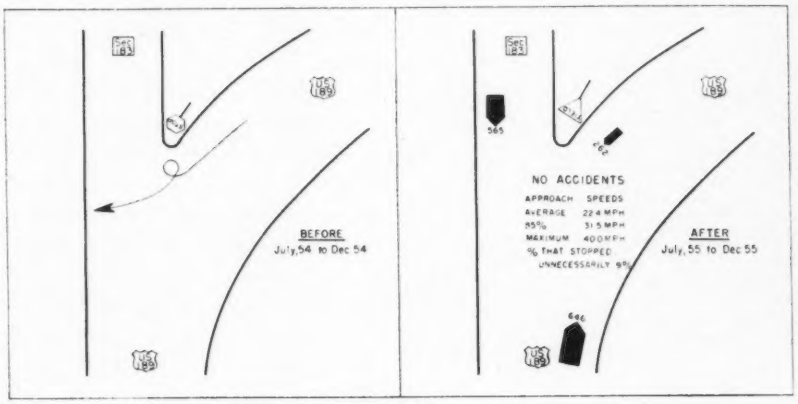

Figure 2.

I would like to submit facts on a second installation (Fig. 2) which I feel is the improper use of a YIELD sign. This intersection is located in a rural area with US 189 designed as the preference road and intersecting a minor secondary route in a "Y" type intersection. Although Route 183 is a secondary road, it carries more than twice the volume of traffic as on the primary highway. The original traffic control consisted of a STOP sign on US 189 but this was objectionable for a primary route. A YIELD sign was installed in June, 1955, after the YIELD SIGN was made legal and the resulting conditions are shown in Fig. 2.

The Wyoming YIELD Law reads that "the driver of a vehicle approaching a YIELD RIGHT-OF-WAY sign shall slow to a speed of not more than ten miles per hour . . ." It is immediately evident from a study of the approach speeds that the sign is not doing a good job. Neither is it being observed properly because 9% of the drivers in this study actually stopped without conflicting traffic present. Adequate publication was made of the YIELD sign on a Statewide basis to produce better results than were recorded in this study. Local enforcement officers advise of no arrests which might be responsible for some of the unobservance. However, the study included enough foreign traffic to conclusively prove the sign is not being observed. Because of the vast area of black-top involved in this intersection, it must be channelized which will be started in the very near future.

Very truly yours,
ROBERT C. O'CONNELL
Traffic Engineer
Wyoming Highway Department

T. Ralph Goodman

T. Ralph Goodman (Mem., ITE) died August 2 after a long illness. He was 55 years old.

Mr. Goodman was traffic engineer of Glendale, California, a position he had held since 1950. He had worked for the City in various engineering capacities for thirty years before, and was second in length of service with the City.

Born in Pittsburgh, Mr. Goodman came to California in 1920. He was a registered professional engineer in that State.

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New Publications

The Metropolitan Transportation Problem

By Wilfred Owen. The Brookings Institution, Washington, D.C., 1956. 266 pp, plus appendix and index. $4.50.

This new volume, by one of the best known men in the field, suggests possible solutions to the current and future metropolitan transportation problem. His answer is fundamentally one of coordinated action and planning by many agencies.

Early chapters outline the problems of the growth in motor vehicle ownership and use and the failure of our cities to adapt to the automotive age, the joint problems of increasing costs and decreasing revenues faced by public transportation, and finally the current efforts to improve the situation and their shortcomings.

The balance between public and private transportation and the financing of transportation services are discussed. The organization — or rather the lack of organization — for transportation services and the relation between transportation demand and community planning are covered in following chapters.

The conclusions reached by the author are not all new, but they provide food for serious thought by everyone with any responsibility for any part of the problem. Mr. Owens makes the following points:

(1) Recognition that a large-scale return to public transportation is unlikely and that increasing automobile use must be a basic factor in all urban planning.

(2) Emphasis on future public transportation should probably be put on the bus—although long-range planning may include helicopter, conveyor belts and similar innovations.

(3) Highway and terminal requirements for motor traffic will continue to dominate the problem.

(4) A satisfactory solution must recognize that movement of traffic and access to abutting property are two separate functions—and must be handled by separate street systems.

Suggested is a radically new financial policy for urban transportation, envisioning in its broadest sense the pooling of revenues (transit fares, tolls, etc.) to cover all costs of the urban transportation system. Probably more readily acceptable is a proposal for a unified management for all phases of the urban transportation system, which the author says is now in an "administrative vacuum." Finally there is the need for a community plan developed in recognition of the transportation problem.

Suggested specifically is a community-wide program of staggered hours to spread out the transportation load. The imposition of land, population and geographic limits on urban development is recommended, together with the redevelopment of existing areas to enable people to live and work in the same area.

Any solution to the present problem, the author says, must meet three tests: (1) it must be functionally comprehensive by including all forms of transportation; (2) it must be comprehensive geographically by including the entire area or region; and (3) it must be comprehensive from a planning standpoint by assuming that transportation promotes community goals and that community plans make satisfactory transportation possible.

The book is illustrated, and there are a number of interesting and useful tables in the appendix. Altogether the volume is a worthwhile addition to every transportation library.

How Bypasses Affect Business

U. S. Chamber of Commerce, Washington 6, D.C. 1956. 24pp. .50 (reduction for bulk orders).

Contrary to general business opinion only a few years ago, highway bypasses (relief routes) usually help business and raise property values the Chamber of Commerce of the United States reports in a new booklet entitled "How Bypasses Affect Business."

The publication points out that the new national highway program, which calls for 42 per cent of federal-aid construction in urban areas, will mean that many towns and cities from coast to coast will face the bypass problem.

Effects of bypasses on business, property values, traffic volume, pedestrian safety and parking are listed, together with legal aspects, and suggestions for community organization for study and action on the bypass problem as it affects a specific locality.

The publication cites a survey of nine cities by the California Division of Highways listing the effects of bypasses on various businesses along the by-passed routes. With few exceptions the businesses showed gains, some ranging as high as 132 per cent. Other studies showed an increase in land values along by-passed routes.

Business men credited gains to a decrease in traffic congestion on the bypassed routes which made shopping easier.

Criteria for Professional Employment of Engineers

National Society of Professional Engineers, Washington, D.C. 1956. 23pp. .25 (reductions for quantity orders).

A committee of the NSPE has just issued recommendations on employment practices in the engineering field which will be of much interest to all engineers.

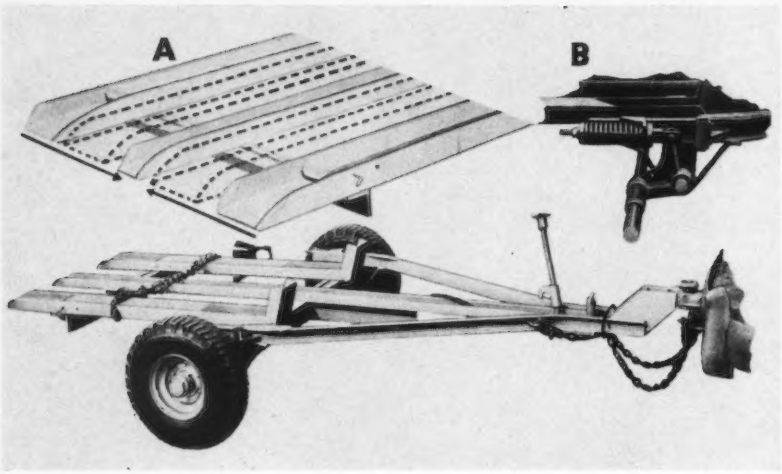
Printed in check-list format, the criteria cover specific categories of engineering career development. The criteria suggest the responsibilities of the employer to his professional employees, and the latter's responsibilities to the employer.

Topics included are recruitment, indoctrination, professional development of the individual, salaries, engineering titles, personnel practices, and termination policies.

The criteria were developed by the Engineer-in-Industry Subcommittee of the Employment Practices Committee of the National Society.

Printed copies of the employment practices criteria adopted by the National Society of Professional Engineers are now available from the National Society headquarters, 2029 K Street, NW, Washington 6, D.C., for 25 cents each. Prices for quantity orders are: 20 cents each for 10 to 49 copies; 15 cents each for 50 to 99 copies; and 10 cents each for 100 or more.

Strictly Business



Trailer Moves Striping Machines Fast and Safely

A new two-wheel trailer has been designed to carry striping machines. The new Wald Carry-Liner Model T4 will move Wald Reflecto-Liners, and three-wheel striping machines of other manufacturers, quickly and safely from one job location to another. Moving a striping machine by manpower and truck is usually a time-consuming, costly operation because of the many hours it takes to load and unload the striper. And there is always the hazard of injury to members of the crew and damage to the machine, especially those with attached sphere dispensers.

It is a simple, one-man operation to load a striping machine onto the Wald Carry-Liner. The two adjustable outside channel tracks are easily moved to accommodate the tread width of any three-wheel striping machine. After the channels have been properly positioned and securely tightened, the trailer bed is dropped to the ground. Wooden ramps, which prevent damage to attached sphere dispensers, are placed on the two outer channels. Then, one man can guide the striping machine so the single front wheel fits into the center channel. Self-propelled, the machine mounts the trailer bed, which readily tilts into transport position. A transport clamp is tightened over the front of the striper, and chains looped through the rear of the frame to keep the machine snugly in place. For added security, the wooden ramps can be turned end to end and used as chock blocks. This Wald trailer is easily attached to a truck or pickup, and will transport any striping machine at legal speeds on any type highway. It has smooth riding characteristics because of the widely-spaced wheels and extra-heavy springs. An exclusive feature, the Wald even-keel axle with rubber snubbers prevents any overtravel.

For complete information, write for Wald Technical Bulletin H-T4-656, Wald Industries, Inc., Huntingdon, Pa.

Ready-Made Traffic Sign Faces

Ready-made traffic sign faces—both reflective for nighttime visibility and non-reflective for "daytime only" use—for renovating worn-out traffic signs have been announced by Minnesota Mining and Manufacturing Company, St. Paul, Minnesota.

Made of "Scotchlite" brand reflective sheeting or non-reflective "Scotchcal" brand plastic film, the prepared sign faces are pre-cut to size and the legend applied by the manufacturer. On the back of the sign face is an adhesive which, when activated by heat or liquid activator, effects a permanent bond between the sheeting and the sign.

Renovating old signs with the new sign faces involves cleaning the old sign face; trimming the sign face with scissors to the proper size; removing the liner from the back of the sheeting; applying to the sign blank with the heat-lamp vacuum applicator or by hand roller. The renovated sign is ready for immediate use.

The sign faces will withstand extreme weather conditions and will not crack, chip or fade, the company reports.

Reflective sign faces are available in the regulatory, warning and night parking series, bridge-end markers and barricades. Special signs can be made to order.

Non-reflective sign faces are available in the school and day parking series.

Radio-Controlled Emergency Signal System Announced

A new radio controlled emergency traffic control system is now available from the Eagle Signal Corporation, Moline, Illinois. The new system automatically controls the traffic signal lights at the intersection ahead of an approaching emergency vehicle and helps to provide safe passage for the these speeding vehicles.

Statistics show that there are over 2,000 accidents each year involving emergency vehicles causing the tax payers millions of dollars in litigation. More important than the money involved are the injuries and lost lives resulting from these needless accidents. To overcome this appalling accident rate, the NATECS system has been developed after three years of engineering and testing.

The NATECS system provides positive control of any intersection that has traffic signals installed. This control is provided from the moving emergency vehicles such as police cars, fire trucks and ambulances as they actually approach the intersection.

The NATECS System consists of three parts; a transmitter, a receiver, and a pre-emptor. A transmitter is mounted on each emergency vehicle in use by the city. A radio receiver is usually mounted on one of the signal heads at each intersection. One receiver is required for each direction of approaching traffic. The pre-emptor, which actually operates the emergency condition of the traffic signals, is installed at the controller for each intersection. In addition to this control equipment, an "interrogation light" is installed, (one for each direction of approaching traffic) on or near the existing traffic signals.

When the transmitter, mounted on the emergency vehicle, is turned on, a SHF (super high frequency) signal is immediately transmitted up to a quarter of a mile ahead of the vehicle. The use of this high frequency permits beamed directional control with a very limited spread so that intersections on parallel streets will not be affected.

As the vehicle approaches the NATECS controlled intersection the transmitted signal is detected by the receiver and is relayed to the pre-emptor unit, located at the intersection control box. At this time the pre-emptor assumes command of the traffic signals in a predetermined pattern. Simultaneously the interrogation light facing the oncoming emergency vehicle is turned on by the pre-emptor, assuring the driver that NATECS has established control of the intersection. If two or more emergency vehicles approach the same intersection from different directions, the interrogation light which faces the direction of the first vehicle approaching the intersection will remain steady but will flash on and off in the direction of the second vehicle telling that driver to proceed with caution.

An adjustable hold relay, in the pre-emptor, maintains the emergency control of the NATECS equipped intersection for a predetermined time after passage of the emergency vehicles. Upon release, the traffic signals are returned to their normal operation and traffic will move as usual.

New Cataphote Catalog Covers Traffic Signs and Reflective Pavement Marking

A new, revised catalog covering their complete line of traffic control signs and reflective materials has just been released by Cataphote Corporation, Toledo 10, Ohio.

All signs with standard legends and meeting state and U. S. standards specifications are described in this buying guide plus special signs, posts and mounting accessories. The 3 - color, loose-leaf catalog with price list covers street name and standard traffic signs that are available in aluminum or steel, reflectorized or plain. It also illustrates and describes Cataphote reflective materials including pavement marking compound, buttons, beads and a new brilliant coating for signs that lowers reflectorizing costs.

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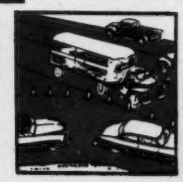

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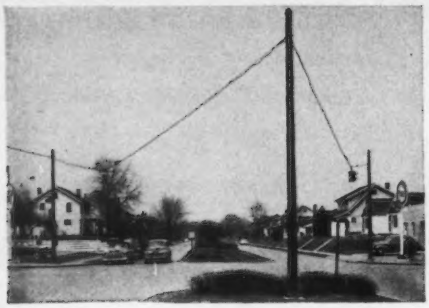

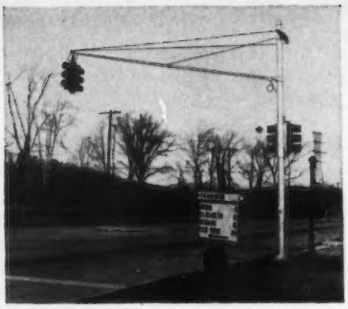

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On today's high-speed highways, signs that can be read at a glance are essential. To provide a simple, lasting means for mounting such signs, Union Metal developed Monotube Overhead Sign Supports, which have already proved their effectiveness and economy in numerous installations.

These steel supports offer the same outstanding design, strength and

construction features for which Monotube street lighting, floodlighting and strain poles have long been noted. Send for catalog data today. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

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Monotube Poles

Eastern Adds New Safety Signs

A new line of eye-catching safety signs and equipment designed for construction projects has just been announced by Eastern Metal of Elmira, Elmira Heights, New York.

Designed to help prevent accidents which occur in construction and repair projects, these new signs have a large variety of legends applicable for just such projects. Safety signs with special warning messages and directional information to eliminate confusion have also been added to the list.

For these new construction signs, particular attention has been given to the design and placement of the lettering so

that the signs can be read quickly and the message will be unmistakable. The colors are bright and striking, and the message "stands out." All Eastern Metal signs are lettered strictly in accord with recommendations of the U. S. Department of Commerce and are made in compliance with official American Standards Association Specifications.

To meet the needs of the construction business, Eastern Metal signs are built for rugged service. Of heavy-gauge steel, signs have a flexible baked enamel finish to resist weather, vandalism, stone bruises and other destructive elements.

Representative groups of Eastern Metal signs are illustrated in color in a descriptive brochure, so the signs can be seen exactly as they are. Complete ordering information and copies of the brochure may be obtained by writing to the Safety Sign Division, Eastern Metal of Elmira, Inc., Elmira Heights, New York.

Institute Affairs

Secretary's Column

The 26th Annual Meeting is a thing of the past as this is read—but due to the mechanical requirements of printing and distribution, it is still in the future as this is written. Hence comment and reports must of necessity be delayed until the November issue.

Technical Council Meets at Purdue

The Technical Council met August 11 at Purdue University in Lafayette, Indiana, with 10 members on hand. Chairman Havenner was unable to be present, but he was ably represented by Vice-President Sielski. Department Heads present included Messrs. Franklin, Berry, Marston, Head, Ricker and Volk. Ted Siegel represented the Technical Notebook and Dolf May was on hand for TRAFFIC ENGINEERING.

A principal item of business was a review of all committee activity, committee by committee. Decisions were reached in regard to discharge of several committees completing their tasks or otherwise inactive. Many committees were reported as working and nearly ready to report.

The status of the Technical Notebook was the subject of much discussion, and the group concluded that the Notebook in its present form should be discontinued after the issuance of one final supplement. It was agreed that the pages of TRAFFIC ENGINEERING should be utilized as the best means of disseminating the findings of technical committees and other technical information.

The Council recommended that no preliminary list of committee members be prepared and distributed as in past years, but that inactive members be weeded out first and only active members be assigned to committees.

NOTE: *All Institute members who would like to serve on committees and who will be active if so assigned are urged to write at once to headquarters, indicating their special interests.*

A resolution was approved by the Technical Council, to be submitted to the Board of Direction for approval, which urges the FCC to revise their licensing procedure for radar speed meters and grant licenses for a minimum period of three years instead of the present one-year period.

National Committee on Uniform Traffic Laws and Ordinances

At a recent meeting of the Executive Committee of the National Committee on Uniform Traffic Laws and Ordinances, attended by Fred Hurd as the ITE representative, it was pointed out that the ITE was not represented as an organization on the main body of the Committee—a group of just over 100 members. This is the group responsible for the Uniform Vehicle Code and the Model Traffic Ordinance. In the past, three city traffic engineers have been included in the main committee. The ITE has been asked for suggestions for these three names—but the three have not been ITE representatives as such.

It was voted by the Executive Committee to change this, and to authorize a six-man delegation representing the Institute and including both city and state traffic engineers. This put the Institute on the same footing in the Committee as AASHO, IACP, and other groups.

Appointment of these representatives will be an early task for the new officers.

Award Presentations

TE "Achievement Award" presentations are starting. Baltimore received theirs Sept. 5, presented by President Prisk to Mayor D'Alesandro, who in turn handed it to Henry Barnes. Vice President Sielski presented the Indianapolis plaque on Sept. 7.

The first presentation was actually made by Vice President Havenner to Governor Knight of California, as shown in the accompanying photograph. The plaque handed the Governor was not the 1955 award, which was not then completed by the manufacturer, and the new design is shown in the picture on this page.

Education of Engineers

If any subject is of greater concern to traffic engineers today than the traffic operations aspects of the new national highway program, it is the training of engineers. Two items of interest have recently come to our attention which are important enough to pass on.

Much is being written and said about the total school problem — inadequate facilities, too few teachers, and more students coming. For a disturbing summary of the situation which nevertheless makes some practical suggestions read the article "The Crisis in Our Schools," in the September issue of the *Atlantic Monthly*.

Specific attention to the engineering situation is being given by many technical groups, including the American Society for Engineering Education. A recent survey by the ASEE shows that enrollment in full-time technical schools and graduates in 1955-56 were up compared with a year ago but still fell far short of the need.

The Society reports that President Eisenhower's National Committee for the Development of Scientists and Engineers is working on five phases of the problem:

(1) Development of more adequate teaching staffs
(2) Increasing the number of students in technical curricula
(3) More efficient utilization of the present supply of scientific and engineering personnel
(4) Better public recognition for the careers of such technicians
(5) Adequate financial support for expansion of technical training institutions

These and other steps are essential if our present problems are to be met. They deserve the support of all engineers.

D.M.B.

Yearbook Changes

(Changes received since listing in the June issue.)

ADDISON, Walter J. (Junior)
Associate Traffic Engineer, Wilbur Smith & Associates, New Haven, Connecticut. SEND MAIL: 122 Cherry Hill Circle, Branford, Connecticut.

ANDERSON, Orman K. (Associate)
Assistant Professor, Department of Civil Engineering, State College, Mississippi.

ANDREWS, Basil R. (Associate)
Traffic Engineer, Metropolitan Planning Commission, Public Works Department, City Hall, Savannah, Georgia.

ANDRIACCHI, Louis A. (Associate)
3864 Midland Avenue, White Bear Lake, Minnesota.

ANGELL, James E., Jr. (Junior)
Traffic Engineer, Room 205, City Building. SEND MAIL: 7698 East Morris Street, Wichita, Kansas.

AVERY, Eugene V. (Associate)
City Traffic Engineer 274 City Hall, St. Paul, Minnesota.

BARKAN, Benedict G. (Associate)
Research Associate, Yale Bureau of Highway Traffic, 311 Strathcona Hall, New Haven 11, Connecticut.

BARKLEY, Robert E. (Associate)
Director of Urban Renewal, Chattanooga Housing Authority, Gnome Trail, Lookout Mountain, Tennessee.

BARR, John W. (Junior)
Assistant Engineer, Traffic & Planning Division, State Road Department, Tallahassee, Florida. SEND MAIL: 625 West Rich Avenue, Deland, Florida.

BARRY, Donald W. (Associate)
Traffic & Planning Engineer, City of Orlando, P. O. Box 71, Orlando, Florida.

BASARAN, Suat (Junior)
Rafineri Emnuyet Muduru, Petrol, Baltman, Turkey.

BECKENBACH, Col. Charles G. (Member)
Commanding Officer, 8th Transportation Group, APO 154, c/o Postmaster, New York, New York.

BLEDSOE, Byron A. (Associate)
Assistant Manager, Universal Concrete Pipe Company. SEND MAIL: 2977 Rockingham Drive, Atlanta 5, Georgia.

BRANDT, Warren H. (Junior)
Traffic Engineer, Harland Bartholomew & Associates. SEND MAIL: 86 Friendly Drive, Belleville, Illinois.

BROWN, Philip S., Jr. (Junior)
Associate Highway Engineer, Washington Department of Highways, Planning Division. SEND MAIL: Route 4, Box 73, Olympia, Washington.

CABRERA, Isaac T. (Associate)
c/o Centro de Accion O.I.T., Edificio "America" "B" 10. Piso Av. Juarez No. 42, Mexico 1, D. F., Mexico.

CAMPBELL, Earl Wilson (Associate)
Chief Traffic Engineer, Chicago Area Transportation Study, 4812 West Madison Street, Chicago 44, Illinois.

CARSON, William L. (Junior)
Acting Manager, Traffic Engineering Department, American Automobile Association. SEND MAIL: Arlington Towers, Apt. W635, Arlington, Virginia.

CLEARY, Thomas M. (Associate)
Assistant Traffic & Safety Engineer, New York Thruway Authority, P. O. Box 189, Albany, New York.

COGGER, George E. (Associate)
Senior Traffic Engineer, Department of Traffic Control, 405 City Hall, Dallas 1, Texas.

COHEN, Jay (Junior)
Office of Chief of Transportation, Department of the Army, Washington 25, D.C. SEND MAIL: 3482 Gunston Road, Alexandria, Virginia.

COYLE, Lewis R. (Junior)
Traffic Planning Engineer, Department of Traffic Engineering, Baltimore, Maryland. SEND MAIL: 8630 Church Lane, Randallstown, Maryland.

CROMMELIN, Robert W. (Junior)
Traffic Engineer, City Hall. SEND MAIL: 1755 141st Ave., San Leandro, California.

CYSEWSKI, Gerald R. (Associate)
Director of Highway & Traffic Engineering, John Graham & Company, 1426 Fifth Avenue, Seattle 1, Washington.

DAVIS, Harmer E. (Affiliate)
Director, Institute of Transportation & Traffic Engineering, University of California, Berkeley, California. SEND MAIL: 1301 South 46th Street, Richmond, California.

DOUGHTY, James R. (Junior)
Assistant Traffic Engineer, Department of Public Utilities, 417 Lincoln Park Drive, Cincinnati, Ohio.

DUGAN, Dale E. (Junior)
Civil Engineer II, Highway Planning Division, State Hwy. Commission of Kansas. SEND MAIL: 5400 West 15th Street, Topeka, Kansas.

DURHAM, Harold F. (Junior)
Assistant Traffic Engineer, City of San Diego, 259 Civic Center, San Diego 1, California.

EVANS, Henry K. (Member)
Manager, Western Division, Wilbur Smith & Associates, 417 Market Street, San Francisco 5, California.

FEDERHART, James W. (Associate)
City Traffic Engineer, City Hall. SEND MAIL: 5270 Swan Creek Road, Saginaw, Michigan.

FISHER, Ralph L. (Member)
Engineer of Design, New Jersey State Highway Department, Parkway Avenue, Trenton, New Jersey.

FOWLER, Fred T. (Member)
Highway Traffic Coordinator, Bureau of Traffic Engineering, 414 City Hall, Portland 4, Oregon.

FRANKLIN, Jerome D. (Member)
City Traffic Engineer, City Hall Annex, Grand Rapids, Mich.

FRIELING, Gerald H. (Member)
Consulting Engineer, Ebasco Services, 705 McKinley Street, Moberly, Missouri.

GALIOTO, Anthony J. (Junior)
7 Mont Street, Woodmont, Connecticut.

GALLOWAY, Thomas R. (Associate)
Traffic Engineer, Hazelet & Erdal, 531 Dixie Terminal, Cincinnati 2, Ohio.

GILBOA, Israel (Junior)
Traffic Engineer, 120 Paraiso Place, San Francisco 27, Calif.

GILLIES, E. F. (Associate)
Reflective Materials Engineer, Minnesota Mining & Mfg. Co. of Canada Ltd., P. O. Box 757, London, Ontario, Canada.

GONZALEZ-NOVO, Braulio E. (Associate)
Chief Engineer of City Planning Division, D'Strampes, 115 (Altos) Santos Suarez, La Habana, Cuba.

GRAVELLE, Gordon K. (Member)
Deputy Commissioner of Traffic, Department of Traffic, 100 Gold Street, New York 38, New York.

HALSEY, Maxwell (Member)
Traffic & Safety Advisor, The Eno Foundation, Saugatuck, Connecticut.

HAVENNER, Vernon (Associate)
Chief Electrician Foremen, Traffic & Lighting Division, Los Angeles County Road Department. SEND MAIL: 12977 Sproule Avenue, San Fernando, California.

HEROY, Frank M., Jr. (Associate)
Geometric Design Engineer, Road Design Section. SEND MAIL: 2219 Myrtledale Avenue, Baton Rouge 6, Louisiana.

HICKMAN, Harold L. (Associate)
Traffic Engineer, Traffic Engineering Department, Flint Police Department. SEND MAIL: 121 Grace Street, Flint 3, Michigan.

HOFFMAN, Paul G. (Honorary)
1489 El Mirador Drive, Pasadena, California.

HOLLOWAY, Frank M. (Junior)
Traffic Engineer, Traffic & Planning Division, Florida State Road Department, Tallahassee, Florida.

HUMPHREY, H. Dale (Associate)
Senior Assistant Traffic Engineer, Bureau of Traffic Engineering, 202 North Alabama Street, Indianapolis, Indiana.

HUNNICUT, J. Madison, Jr. (Associate)
Traffic Engineer IV
Bureau of Street Traffic & Parking
Room 306, 321 North LaSalle Street, Chicago, Illinois.

JAFFE, Robert L. (Junior)
Traffic Engineer, City Hall, City of Evansville. SEND MAIL: 1014 South Alvord Boulevard. Evansville 14, Indiana.

KEEFER, Louis E. (Junior)
Traffic Engineer, Chicago Area Transportation Study. SEND MAIL: 321 South West Avenue, Elmhurst, Illinois.

KEENAN, Edmond T. (Member)
Supervising Engineer, Ford, Bacon & Davis, Inc., 39 Broadway, New York 6, New York.

KERSLAKE, Ralph W. (Associate)
District Construction Engineer, Washington Department of Highways, P. O. Box 98, Wenatchee, Washington.

KING, Gerhart F. (Junior)
Civil Engineer II, Illinois Division of Highways, Bureau of Traffic. SEND MAIL: 1418 East 57th Street, Chicago 37, Ill.

LAST, Irving (Associate)
Civil Engineer, New York City Transit Authority. SEND MAIL: 84-23 258th Street, Floral Park, New York.

LEEK, John R. (Associate)
Bureau of Research & Planning, Illinois Division of Highways. SEND MAIL: 2418 Yale Boulevard, Springfield, Ill.

LONG, Richard R. (Associate)
Associate Traffic Engineer, Wilbur Smith & Associates, 495 Orange Street, New Haven, Connecticut.

MARLOW, Joseph S. (Junior)
USOM-MSUG, Navy 150, c/o FPO, San Francisco, Calif.

MAY, Adolf D., Jr. (Junior)
Assistant Professor, Department of Civil Engineering, Michigan State University, East Lansing, Michigan.

McMONAGLE, J. Carl (Member)
Assistant Director for Field Services, Highway Traffic Safety Center, Michigan State University, East Lansing, Michigan.

MYERS, Dwight T. (Member)
President, Veon Corporation, 22-09 Bridge Plaza North, Toronto 14, Ontario, Canada.
Long Island City 1, New York.

NIELSEN, Mogens Thor M. (Junior)
Traffic Engineer, Traffic Engineering Division. SEND MAIL: 183 Berry Road, Apt. 305, Toronto 14, Canada.

OSBORN, Howard W. (Junior)
Management Engineer, Panama Canal Company, P. O. Box 361, Balboa Heights, Canal Zone.

PETRILLO, Paul C. (Junior)
Traffic Engineer, Automobile Club of New York. SEND MAIL: 1641 Metropolitan Avenue, New York 62, New York.

PORTER, Harry, Jr. (Member)
Director, Traffic Inventory Division, National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois.

RICE, Joseph F. (Associate)
Assistant Transportation Engineer, c/o Chief of Transportation. SEND MAIL: 1500 North Kenilworth, Arlington 5, Virginia.

SAWHILL, Roy B. (Junior)
Assistant Professor, Department of Civil Engineering, More Hall, University of Washington, Seattle, Washington.

SCHMIDT, Robert E. (Member)
Sales Engineer, Automatic Signal Division, Regent Street, East Norwalk, Connecticut.

SCHROEDER, Robert L. (Junior)
Traffic Investigator, Oregon State Highway Department. SEND MAIL: 2260 Englewood Avenue, Salem, Oregon.

SHUFFLEBARGER, Curtis L., Jr. (Junior)
Civil Engineer II, Highway Division, Dept. of Public Service, Arlington, Virginia. SEND MAIL: 414 Bainbridge Road, Alexandria, Virginia.

SIEGEL, Stanley T. (Associate)
City Traffic Engineer, Bureau of Traffic Engineering, Room 208, City Hall, Indianapolis, Indiana.

SOSMAN, Edward C. (Junior)
Ramp Building Corporation, New York City. SEND MAIL: 117 West Dudley Avenue, Westfield, New Jersey.

STRICKLAND, Richard I. (Member)
Assistant Chief, Traffic Engineering Div., The Port of New York Authority. SEND MAIL: 25 Chestnut Drive, Glen Rock, New Jersey.

TAYLOR, Alonzo C. (Member)
Division Engineer, U. S. Bureau of Public Roads. SEND MAIL: 3961 Weyburn Street, Fort Worth, Texas.

TUTTLE, Lawrence S. (Associate)
Automotive Safety Foundation, Room 106, Cotton States Building, Nashville 3, Tennessee.

WARR, Robert H. (Associate)
Traffic Engineering Associate, Room 1000, City Hall, Los Angeles 12, California.

WATERBURY, Lawrence S. (Member)
Consulting Engineer, 26 Broadway, New York, New York.

WILLIFORD, Robert E. (Associate)
Traffic Engineer II, The Port of New York Authority. SEND MAIL: Grymes Hill Garden, 464 Howard Avenue, Apt. 2A, Staten Island, New York.

WRAY, Robert M. (Member)
Office of Chief of Transportation, Department of the Army, Military Motor Transport Division, Washington 25, D.C.

METROPOLITAN (New York) SECTION

From *Metropolitan Section News*, Sept., 1956.

May 23rd Meeting Notes

The Membership Committee report indicated that 10 new members have received membership in the Section. Three members have transferred to the New York Area and have become Section members during the year.

The Newsletter Committee stressed the importance of the publication to streamlining the regular business meetings and asked for more personal news items and for more cooperation of the membership in procuring news.

The Nominating Committee recommended the following slate:

President .....*Warren Quimby*
Vice-President .....*H. Jack Leonard*
Secretary-Treasurer .....*Arnold G. Fisch*

Since no other nominations were presented by the membership the above gentlemen were unanimously selected to be the Section Officers for 1956-1957.

Mr. John Barker of Automatic Signal Company spoke on the subject: "Electronics With Respect to Area Control". Mr. Barker commented that traffic engineers seem most interested in what can be done with traffic control devices and are not interested in how it is done. The "how" is important before the maximum use of the potentialities of the equipment can be had.

The use of vacuum tubes in preference to old style mechanical devices on some equipment was surveyed. The advantages and disadvantages of the vacuum tube were discussed and a simple description of the functioning of the tubes was illustrated with the use of the hands.

The new, modern signal system along Broad Street in Phila. which involves the use of an electronic computer in its operation was described. The variances in the traffic load are measured by the system and the timing of the signals in the system are adjusted to best handle the traffic flow.

At the close of the meeting, Mr. Klar expressed his appreciation for the good work of the Committees and for the cooperation he received during the year from the Officers and the organization.

Metropolitan Member News

Mr. Henry W. Osborne

On July 1, 1956 Mr. Osborne returned to Buffalo, N. Y., and resumed his work as Traffic Advisor to the City. For the past year he had been on leave of absence and had held a traffic advisory position with the Federal Government in Washington.

It is with pleasure that the Buffalonians welcome "Hank" to tackle the traffic problems of their City. It is assumed that he will also resume his private practice as a traffic consultant.

Mr. Paul C. Petrillo

Paul, who graduated from the Yale Bureau of Highway Traffic and who was employed for the last year by Bamp Buildings, Inc., has joined the Automobile Club of New York Staff as a Traffic Engineer early this summer. The word also has it that Paul and his wife, Ruth, are expecting an addition to the family this fall.

Mr. Dave G. Fielder

Dave, formerly with the Automobile Club of New York has accepted a position as a Design Engineer in the Department of Traffic, Houston, Texas. The Section wishes Dave success in his new position.

Mr. Kenneth Crowley

Ken, a June graduate from the Yale Bureau of Highway Traffic has joined the Highway Planning Division of the Port of New York Authority. Prior to attending Yale he worked for the Connecticut State Highway Department. Incidentally a rumor is spreading that he will marry this fall.

Section News

SOUTHERN SECTION

Excerpts from the *Southern Section Newsletter*, August, 1956

Herman Hoose, Traffic Engineer, of Charlotte writes:

"We are in the process of taking a pedestrian and volume count, including turns, at approximately 100 locations within the central business district and adjacent to the central business district. These will be 12 hour counts from 7 A.M. to 7 P.M. A crew of approximately 15 persons are conducting this survey.

"A peak hour A.M. and P.M. parking ban on both sides of the street on 26 blocks in the downtown area has been approved by the City Council and will go into effect on July 1st.

"Wachovia Bank & Trust Company is constructing a 15-story building in the downtown area, which will have approximately 400 off-street parking spaces."

Bill Huntzicker, Traffic Engineer from Memphis, Tennessee writes:

"In January, 1956, the Memphis City Commission appointed a six-member Transit Study Committee to analyze and recommend on the problem of urban mass transportation.

"Since essential background information and data for developing the recommendations were not readily available to the Committee, the body recommended that a comprehensive survey be made, with development of a plan for transit improvement as its objective. Jointly sponsored by the City Commission and the Memphis Street Railway Company, the survey was begun in March, 1956, and its findings and recommendations are set forth in the report, delivered on June 18.

"The report deals with and makes recommendations on Vehicles Scheduled in Relation to Passenger Demand, Recommended Routes, Schedules and Service, Stop Spacing and Locations, Transfers and Traffic Factors. A cordon count of the downtown business district reveals that there was a 37% increase in persons entering the cordon area via automobiles and a 55% decrease via transit vehicles. Another significant fact is that buses amounting to 3% of the total passenger vehicles brought into the central business district 27% of the people, as against 6% and 54% in 1946 which was used for comparison purposes.

"The Memphis Transit Plan, 1956 was compiled and authored by Wortham Dibble who is retained as Traffic Engineering Consultant by the City.

In Richmond, Traffic Operations Engineer, *W. Stewart White*, has had a male addition to the family. Thus, another potential Traffic Engineer is born.

M. B. McReynolds, Vice-President and General Manager of Traffic Engineers Supply Corporation, Richmond, Virginia, contributes the following:

"Recently, I ran across several interesting traffic control innovations which have proved successful in this area. The one which I feel takes priority was instituted by Irvin R. McGhee, Traffic Engineer for the City of Martinsville, Virginia. Traffic on their main street was excessively delayed by the parking and unparking of vehicles at the cur. Irvin's studies indicated that delays up to two minutes occurred due to vehicles maneuvering into 22 foot metered parking stalls. By eliminating every third parking space and thereby providing an additional 22 feet of maneuvering area, the delay was reduced to a maximum of eleven seconds.

"A similar system is currently being introduced in another Virginia city where parking stalls are only 18 feet in length and would necessarily have to be lengthened to 22 feet to cope with the increased vehicle lengths. In lieu of lengthening the stalls, every third parking space was eliminated to provide 18 feet of maneuvering area while maintaining approximately the same number of curb spaces as would result by increasing each space to 22 feet. The plan has, of course, met with some opposition but after a reasonable trial period has been accepted in lieu of abolition of all curb parking.

"This firm is currently making a color sound movie of the central business district of Charlottesville, Virginia, showing the movement of traffic on one-way streets with non-flexible traffic controls compared with the "after" results of one-way streets, coordinated traffic controls and pedestrian signals. We hope this movie can be made available to members of the Southern Section to assist them in selling one-way streets. We would appreciate hearing of any requests for the film.

"Speaking of Charlottesville, here is a good example of the progress traffic engineering is making in this area. In 1948 the Virginia Department of Highways conducted and submitted to the City a comprehensive survey recommending one-way streets. City Council refused to approve the plan and tabled the report. Just recently, a similar one-way plan was recommended and endorsed unanimously by the Chamber of Commerce, Retail Merchants, several civic groups and City Council at its original presentation. This is evidence that traffic engineering efforts are bearing fruit."

WELCOME NEW MEMBER

Mr. Mark G. Garver, Partner, Garver & Garver, Engineers, 14 Palisades Drive, Little Rock, Arkansas.

Southern Section Members should set their sights on the Southern Safety Conference and Va. State Safety Association joint meeting in March, 1957, at which time we hope to have the most outstanding Sectional meeting to date.

TEXAS SECTION

From the *"Tex-ITE"*, August, 1956

Research Project—T. T. I.

The Texas Transportation Institute is currently conducting a study of "The Operational Characteristics of Expressways as Related to Design." The study is being made with the co-operation of the Texas State Highway Department and the cities of Houston and Dallas. Continuous time-placement observations of sections of the Gulf Freeway and Central Expressway are being made through use of motion pictures. The use of entrance and exit ramps, vehicle placement in lanes, vehicle speeds, weaving and merging, and other related characteristics are scheduled for detailed study. The project is ably headed up by Jack Keese (Professor) A. & M. College.

Membership-Texite

The Texas Section, Institute of Traffic Engineers as of June 1956 had a total membership of 61 members, 25 of which are affiliates.

One Way Street Plan—Dallas

The first phase of an over-all one way street plan for downtown Dallas will get under way September 9 when Elm and Commerce, two of the principal east-west arteries, will be designated one way. The conversion of other streets, as recommended by the Mayor's Traffic Plan Committee, will follow at a later date. Advance publicity is being handled by the Citizen's Traffic Commission through the media of radio, T.V., newspapers and brochures, of which one-half million are being printed for distribution to motorists.

Something New Has Been Added

New members joining the ranks of the Texas Section are:

J. D. Southwell.....Beaumont
J. Nolan Harvey.....Austin
Paul Garza.....Waco
Arthur Fore.....Beaumont
Al Cupp.....Dallas
G. C. Buchanan.....Dallas
H. J. Beadle.....Dallas
Fred Seale.....Houston
C. A. Christwell.....Beaumont
J. A. Cooper.....Beaumont

(Continued on page 46)

Membership Applications

The following applications have been received since the list of applicants published in the September issue.

APPLICATIONS FOR TRANSFER

BARRIERE, Jacques
Section Engineer (Surveys)
Traffic Department
City Hall
Montreal, Canada
August 29, 1956 for ASSOCIATE grade

CARROW, William Reynolds
Assistant Traffic Engineer
Delaware State Highway Department
152 South State Street
Dover, Delaware
August 21, 1956 for ASSOCIATE grade

CLINARD, Charles Allan
Director of Traffic & Planning
City of Abilene
P. O. Box 60
Abilene, Texas
August 30, 1956 for ASSOCIATE grade

DESJARDINS, Raymond Joseph
Chief of Transportation Division
Metropolitan Toronto Planning Board
133 Richmond Street, West
Toronto, Ontario, Canada
August 13, 1956 for ASSOCIATE grade

FOWLER, Paul H.
Traffic Engineer
San Diego County Road Department
014 Civic Center
San Diego 1, California
August 16, 1956 for ASSOCIATE grade

HUBER, Matthew Joseph
Research Associate
Yale Bureau of Highway Traffic
311 Strathcona Hall
New Haven, Connecticut
August 15, 1956 for ASSOCIATE grade

LEONARD, H. Jack
Associate, Edwards, Kelcey & Beck
3 William Street
Newark 2, New Jersey
August 16, 1956 for MEMBER grade

NEW APPLICATIONS

CHRONISTER, Joseph Shelby
City-Parish Traffic Engineer
City of Baton Rouge, Parish of East Baton Rouge
Municipal Building, P. O. Box 1471
Baton Rouge, Louisiana
August 29, 1956 for JUNIOR grade

HIMELHOCH, Alfred Lee
Assistant District Traffic Engineer
California Division of Highways
Box 2304, Terminal Annex
Los Angeles 54, California
August 30, 1956 for ASSOCIATE grade

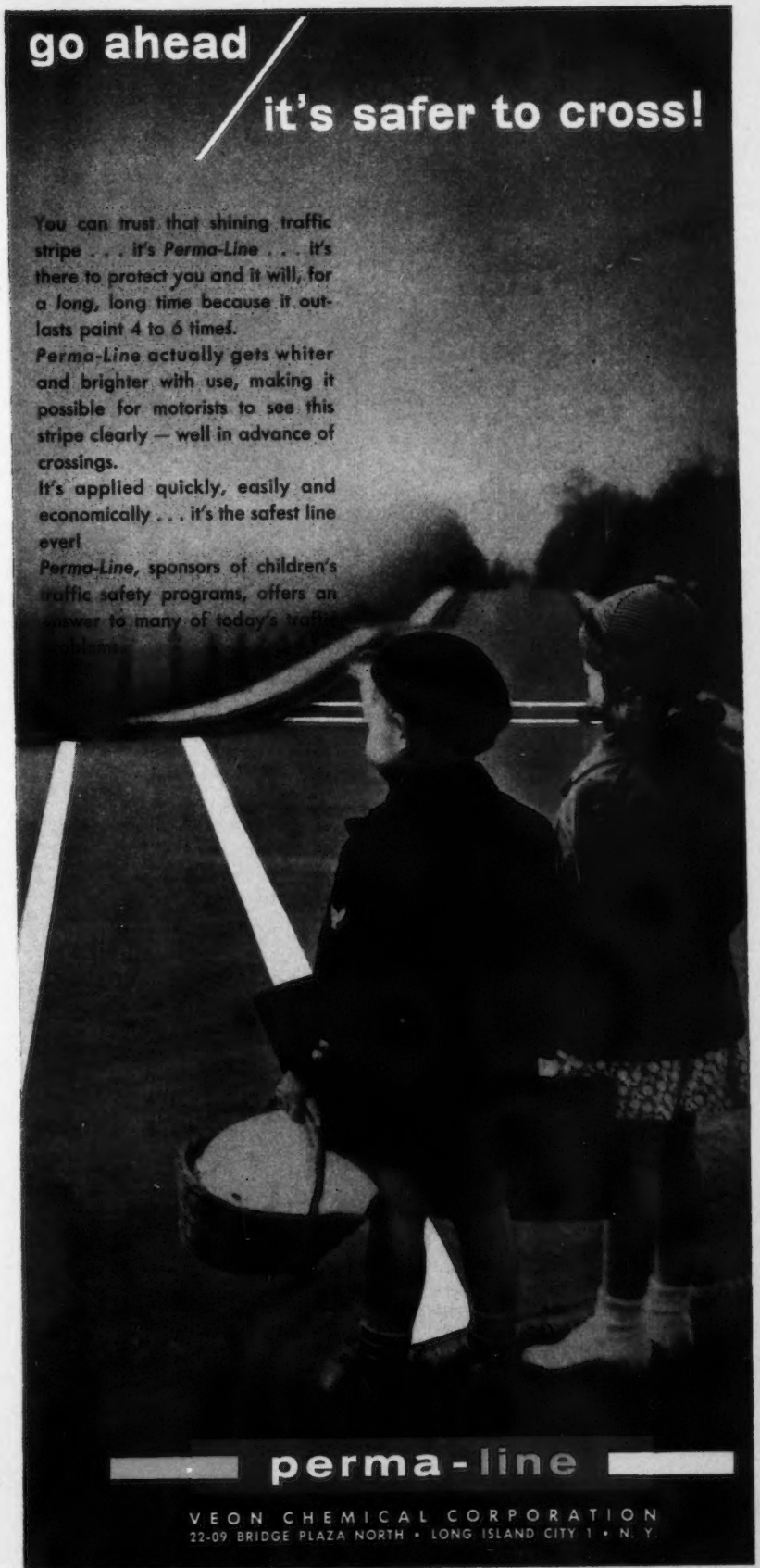
KANE, Arthur E.
Director of Construction & Maintenance
Department of Traffic
100 Gold Street
New York 38, New York
August 17, 1956 for MEMBER grade

MIKULICH, Ludwig J.
District Traffic Engineer
Michigan State Highway Department
5 Jefferson Court
Saginaw, Michigan
August 27, 1956 for MEMBER grade

NUGENT, Edward J.
Traffic Engineering Consultant
Insurance Industry Committee on Motor Vehicle Accidents
60 John Street
New York 38, New York
August 9, 1956 for MEMBER grade

SLIDER, Earl Ring, Jr.
Assistant Traffic Engineer
Traffic Engineering Department
City Hall, 68 Mitchell Street, S.W.
Atlanta 3, Georgia
August 14, 1956 for JUNIOR grade

VILLEGAS, George Charles
Project Engineer, Sacramento Metropolitan Survey—Roads & Bridges
De Leuw, Cather & Co.
79 McAllister Street
San Francisco, California
August 30, 1956 for ASSOCIATE grade


go ahead
it's safer to cross!
You can trust that shining traffic stripe . . . it's Perma-Line . . . it's there to protect you and it will, for a long, long time because it outlasts paint 4 to 6 times.
Perma-Line actually gets whiter and brighter with use, making it possible for motorists to see this stripe clearly — well in advance of crossings.
It's applied quickly, easily and economically . . . it's the safest line ever!
Perma-Line, sponsors of children's traffic safety programs, offers an answer to many of today's traffic problems.
perma-line
VEON CHEMICAL CORPORATION
22-09 BRIDGE PLAZA NORTH • LONG ISLAND CITY 1 • N. Y.

SECTION NEWS

(Continued from page 44)

Congratulations to you all and welcome to the best and fastest growing I. T. E. Section in the world.

From Here and There

Stu Fischer says that San Antonio's new downtown signal modernization is coming along in good shape with about 40% of the underground work completed. Ribbon cutting ceremonies are scheduled for shortly after the first of the year. (Incidently, we understand the new and approved pronunciation of Stu's home city is San Antony-yoyo.)

Bob Buckman's Fort Worth plan is still Gruin (pun) with building lines on new construction in the downtown area established in accordance with the plan. On a recent visit to Dallas, Buck was sporting a new radio-equipped city car.

Earl Williams states that with a few more pictures to add to his files (which he hopes to get in San Francisco next month) he'll be in a position to retire from his Wichita Falls job and live on blackmail extracted from TexITE members. Incidentally, we forgot to give Earl a courtesy line for the fine pictures that appeared in the last issue of TEXITE.

Gene (Lone Star) *Maier* has assumed the role of Civil Defense Director for Houston among his other duties. We have been able to discount the rumor that Gene's staff, McEachern, Amsler, Hawkins, et al are required to stand at attention and salute every time Gene walks into the office. Along the serious line it is noted that Houston is having the same trouble as other cities in the matter of right-of-way acquisition for expressways. Voters turned down a bond issue proposal that would permit the city to spend money for needed right-of-way.

Bill (Rosey) *Burgess,* a prospective member of the Texas Section is the newly appointed traffic engineer of Tyler (East Texas). Bill, who hails from Missouri, says there's no place like Texas and particularly Tyler, with its oil, water and roses.

Louis Andriacchi, ex-member in reasonably good standing, has moved into a brand new rambler in suburban St. Paul. He and some of his associates hosted a group of Texas engineers at Wonomoc Lodge on Lake Petite, 200 miles north of St. Paul.

Paul Rice, of "Yield" sign fame, is looking for sign materials that will permanently withstand the rigors of Corpus Christi weather, and teen-age vandalism. Paul is comparatively new to the Texas Section but a member of long standing with the National.

Jack Keese reports that he is not spending much time at home these days with conducting his highway research projects in Houston and Dallas, and attending the session at Purdue University. Jack says the second annual short course in traffic engineering for Texas is scheduled to begin January 13 at A. & M. College.

Joe Nadon states that El Paso is currently studying plans and designs for a 25 mile freeway that will bisect the city.

An entourage of TEX-ites, consisting of Bob Buckman, Cooper McEachern, Buster Wilkinson, and Jim Saylor, was recently piloted up and downtown Atlanta, Georgia's famous Peachtree Street by Jack Hulett — Purpose: An inspection of Atlanta's new signal installations consisting of a group of Automatic Signal Company's new PR-2 controllers.

The group also had the opportunity of witnessing the application of a thermo-compound, delineating crosswalks, by the Perma-Line Corporation. Atlanta has been doing a lot of experimentation with this type of pavement marking.

Bob Chester, of Lubbock, recently returned from Evanston, Illinois after attending the three week course in Traffic Engineering at Northwestern University.

The city of Lubbock has received their new "Code of the City of Lubbock." This codifies all ordinances, including traffic ones, into a simplified book.

The interconnection of 30 traffic signals with a new master control is almost completed. This brings 84 of the city's 132 signals into two separate interconnected systems. One master controls 54 signals in the central business district while the new one takes care of those signals in the area west of downtown.

WESTERN SECTION

From Western ITE, August, 1956

The sixth annual planning conference of the eleven Western states (and Texas) in Cheyenne, August 2 and 3, brought together 74 highway planners including *ITE members* E. H. Holmes and Roy E. Jorgensen of Washington, D.C. and *WITE members* R. C. Blensly—Oregon, John K. Mladinov—Washington, Bob O'Connell—Wyoming, Allan R. Pepper—Colorado and M. H. West—California. Bob O'Connell and crew were splendid hosts and the arrangements for his guests were unsurpassed. "Ted" Holmes passed the word about the Interstate program and studies requested by Congress. Roy Jorgensen urged the states to follow the lead of promoters of the Federal program so as to provide adequate programs for their states. Throughout the program a number of speakers emphasized that traffic forecasts should be made as liberal as can be substantiated.

Glen Smoot

Some know this — others do not. Glen Smoot, Reno's traffic engineer since April 1, reports he is having the time of his life working in real virgin territory (Virgin traffic engineering territory, of course). He expects to see all of you in San Francisco.

Governor Goodwin J. Knight, second from left, checks for wall space as he accepts awards for California's traffic safety achievements from Joseph E. Havenner, Vice-President, Institute of Traffic Engineers; and John D. Holstrom, Vice-President, International Association of Chiefs of Police, left to right.

Reference Notes

PARKING METER RATES STUDIED

As part of a study of Pittsburgh's parking meter rates, Michael J. Gittens, Pittsburgh traffic engineer, queried a number of other eastern and mid-western cities on rates and other aspects of their parking meter systems as of July 16, 1956. A taulation of results is shown below as being of interest to other cities. — EDITOR.

City	No. of Meters Man.	No. of Meters Aut.	Per Hr. Bus. Dist	Per Hr. Other	½ Hr.	12 Min.	2 Hrs.	Collection Method	Coins Collected By	Notes
Baltimore, Maryland	361	2450	.05	.05		.01	.10	Jones Dump System	Brinks, Inc	Other Meters: .05 per hr. Max. 10 hr. .25 for 2 hr. Max. 20 Hr. In truck lot.
Buffalo, New York	0	3200	.10	.05	.05		.10	Sealed containers	Treasurer's Office	
Chicago, Illinois	29,548	0	.10	.05	.05	.01		Self-locking coin boxes	Brinks, Inc.	Considering recommendation to eliminate penny meters
Cincinnati, Ohio	0	7775	.20 .10	.10 .05	.10 .05	.01	.20 .10	Sealed containers	City Treasurer	.05 for 15 min. in C.B.D. 1 to 5 nickel meters with 10 hr. max. in parking lots
Cleveland, Ohio	0	4020	.10	.10	.05	.02	.20	Sealed containers	Treasurer's Office	
Columbus, Ohio	2,250	0	.10	.05	.05	.05 (15 Min in C.B.D.)	.10	Mostly sealed containers	Treasurer's Office	Meters accept only nickels
Detroit, Michigan	0	6230	.05	.05	.05	.05 (15 Min)	.05	Sealed containers and sacks	Treasurer's Office	.05, .10, .25 in parking lots Curb meters accept only nickels
Louisville, Kentucky	0	2190		.05	.05 (In B.D.)	.01	.10	Sealed containers	Dept. of Safety	.15 for 3 hrs. Considering elimination of penny meters.
Milwaukee, Wisconsin	0	5000	.10	.05	.05 (In C.B.D.)	.01		Dump system	Brink's Inc.	25c for 5 hrs. in outlying parking lots at .05 per hour.
Minneapolis, Minnesota	0	4200	.20 .15 .10	.05				Dump system	Treasurer's Office	Rates approved. Completion date for changing meters—9/1/56
New York, N.Y.	0	36,000	.10	.10	.10		.10	Sealed containers and Dump System	City Collector	1½ hrs—.10 3 hrs—.10 Meters accept only dimes
Philadelphia, Pennsylvania	0	14,900		.05	.05	.05	.10	Sealed containers and Jones Dump System	Dept. of Collections	Meters accept only nickels
Pittsburgh, Pennsylvania	3110	0		.10	.05		.20	Sealed containers	Treasurer's Office	Rates approved. Meters to accept only nickels
Providence, Rhode Island	0	1849	.05	.05	.05	.01	.05 .10	Dump System	City Collector	2 hr—.05 3 hr—.10 4 hr—.15 In City Owned Parking Lot
Rochester, New York	0	3500	.10	.05	.02 .05	.01 .02	.10 .20	Dump System	Treasurer's Office	5 hr—.25

VIOLENCE IN MULE'S HEAD

Bryan Wilson, Traffic Engineer
Wisconsin Division, AAA

Henry Glausson, Traffic Engineer of Mule's Head, pop. 73,000, sat nervously dragging at his cigarette as he watched the members of the Common Council straggle in through various doors in the huge auditorium of the City Hall. They came in boisterously, tossing hats and overcoats on empty chairs and cold radiators, lighting black cigars, shaking hands, finishing stories started in the corridors. There was an aroma of earthiness here, mused Henry. He could smell beer, whiskey, sauerkraut, garlic, and bologna, and so well acquainted was he with the various members he imagined he could trace each turbulent odor to its source. This was a special meeting called by the Mayor as a result of a petition containing over 400 names, all factory workers from the West Side, and already the long rows of chairs for use at public hearings were beginning to be filled.

The Planning Engineer came up. "Henry, ol' son, looks like a hot ol' night! Those West-siders are plenty rough, and they got their big shot leader with them, Spike Donahue. You haven't met him yet, but he controls about five thousand factory votes and every politician in town treads softly when he's around. He's an ex-pug, and not a bad guy if he happens to like you, but if not, he'll swallow you down without ketchup or mayonnaise, and Henry, I'm afraid he don't like you! Look at the way he's frowning! Somebody's pointed you out and he sho' don't like what he sees. What kin' of flowers you want at the funeral, Henry?"

Henry smiled wanly and looked at the big bruiser. It seemed to him the man was leaning forward and about to charge. He was reminded of a ferocious bulldog straining at his leash, mouth drooling bloody foam in anticipation of sinking his teeth in soft flesh. Henry had always detested loud words and violence of any kind, but intuition told him that they were here. He felt a queer weakness in the back of his knees and there was a salty taste in his mouth. He decided that he was very badly frightened and found himself wishing that he'd stayed in the Design Department of the good old Highway Commission where arguments were peacefully settled with the aid of logic and the quoting of weighty authority. Why, oh why did a man ever get foolish enough to take up traffic engineering where everything he did had to be defended at protesting public hearings?

The crowd had seated themselves with some semblance of order and the Mayor tapped his desk gently with his gavel. "Gentlemen, I am sure you are familiar with the purpose of this meeting, which is to explain to our good citizens from the West Side some of the reasons for increasing our one-way street grid. As you all know, we started a little over a year ago with two one-way streets and such was their success that we have added streets from time to time until now most of our central business district consist of these one-way streets. We now have over 23 miles of them, and tonight we plan to begin on two residential streets on the West side, feeling that the time has come to extend their benefits to residential sections, and also wishing to show our regard for the welfare of the fine, substantial citizens who reside in that area of our fine city, wonderful Mule's Head."

A great clamor arose from the visitors and several men angrily tried to speak at once. The pounding of the gavel and the Mayor's loud requests for order nearly, but not quite, secured some semblance of order. "And so," beamed the Mayor, "without further ado I am going to call upon the man responsible for this great public service. The man whom I consider best qualified to give you fine citizens the reasons whereof and whyfor. Friends and close neighbors, I give you Henry Glausson, Traffic Engineer of Mule's Head, the finest city in the country in the finest world in the Universe." The Mayor flashed all his teeth and sat down amid catcalls and yells of "Keep him!" "Don't try to wish him on us!" and "We don't want him!"

"I'll take some heat off, ol' son," whispered the Planning Engineer. He rose and said: "Mr. Mayor, if you'll pardon me I'd like permission to say just a few words. I know I'm interfering with the real purpose of this meeting, but what I have to say has a direct bearing on the subject to be discussed and knowing how long this discussion will last I'm afraid I won't get my two bits' worth in unless it's right now. Have I your permission to say just a few words relating to the progress of this city, sir?" The Mayor frowned heavily, glared at the P.E., and grudgingly gave him the floor.

"Gentlemen, I want you to know that traffic engineering is not the whole answer to a city's progress," said the P.E., assuming a scholarly manner and trying to remember a lecture from his student days. "I admit its necessity, but it's only a part of the problem. There are many other functions such as proper zoning. Look at all our blighted residential buildings in a commercial zone! We need more streets and wider ones. We need to plan boldly and carry those plans into heroic execution. We must do away with petty horse and buggy thinking and hit a stride in civic matters to fit the atomic age in which we are living. We must do something bold and dramatic. We must rebuild the town and make it functional. We must consider these functions—"

"Set down, you," yelled Spike Donahue menacingly. "All you know is functions and neither you ner nobody else knows what they mean. I want that bully boy, Mister Henry Glausson, to talk and talk fast. I want a few words with Mister Henry Glausson."

Henry quietly swallowed his heart and rose as the P.E. sat down. He drifted unsteadily to the speakers table and glassily allowed his eyes to wander over the sea of bitter faces before him. It simply must be a nightmare, he thought. I'll wake up soon, have a hot cup of coffee and a cigarette, and have a good laugh at this horrible dream. Then I'll up my age 30 years, retire and live peacefully on a little farm with my social security check. He began to speak automatically.

"Gentlemen, all cities are faced with the spectre of streets so full of cars that movement is practically impossible. The best authorities tell us to expect around 85 million cars on our streets and highways by 1970. As traffic engineers we must not only provide economy and ease in transportation but also see that this huge mass of vehicles has a terminal facility. Hence, you will note our great parking program which has moved steadily, if unspectacularly, along. We know that in certain diseases that to save life surgery is sometimes necessary. To be sure its an inconvenience just as many of you think one-way streets are an inconvenience, but its the only solution to a problem of coming traffic congestion such as we cannot now imagine. We—"

"You little spouter of big words," shouted Spike, running up to Henry, shaking off restraining hands as he came. "You can't muddle up this town as long as I have a part in running it. I can't match your long tongue, but I can mash that mouth so it can't deceive my town no longer!" He took a round house swing at Henry. Now, you won't believe it, fellow engineers and strict logicians with your theory of probabilities, but at this precise instance Henry's knees gave way, and in an attempt to keep from falling he violently thrust his arms out, his fists balled in terror, and his left hit Spike violently in the eye while his right countered perfectly and clipped Spike's protruding, if glass, chin. The sound of the consecutive blows were as the pounding of a dusty rug on a clothes line, and Spike Donahue, hero of thousands of red-blooded workers, measured his great length on the floor, where he lay, his senses refusing to believe what happened, but his admiring gaze on the slender boyish form of Henry, who stood horrified beyond belief.

There was pandemonium, as the novelists say, in the usually decorous City Hall. Dignified men embraced and cursed in quiet awe. The rougher element cheered and tossed hats, repeatedly swearing by their great aunt's hairless cat that never had they witnessed a more timely counter or such devastating blows.

Henry was so petrified with fear that he could only stand passively as Spike got unsteadily to his feet and moved toward him, a huge grin on his face.

(Continued on page 49)

Faustman Becomes Consulting Engineer

D. Jackson Faustman (Mem., I.T.E.) formerly City Traffic Engineer and Parking Director for the city of Sacramento, California, has recently resigned this position to open his own office in Sacramento as a traffic and parking consultant.

Faustman had been with the city of Sacramento since 1948 and previous to that had a variety of experience with the California State Public Utilities Commission, Sherrill Manufacturing Corporation, and with the Army Transportation Corps.

He received a Bachelor of Science degree in Civil Engineering and a Masters Degree in Transportation Engineering from the University of California. He also did graduate work at Harvard University and is presently a Doctorate candidate at the University of California.

In addition to membership in the Institute of Traffic Engineers he is a member of the American Society of Civil Engineers, Highway Research Board, Sigma Xi (Honorary Research Society), and Chi Epsilon (Honorary Civil Engineering Society). He is also active on technical committees of many national organizations.

His technical activities include the publishing of articles in Traffic Engineering, Traffic Quarterly, Civil Engineering, Transactions of A.S.C.E., Public Safety, and many others.

During the past several years he has participated in parking finance studies, parking improvement studies and comprehensive traffic reports in many western cities.

Portable Sign Standard Offered

A portable sign standard of great adaptability is offered by G. D. Blavin Co., 2500 W. 6th St. Bldg., Los Angeles 57. The standard, called the "Commando," can be used to hold signs of various sizes and shapes. Two

may be used together to hold extremely large signs.

The standard resists blow-downs by heavy winds or fast traffic passing close by. It is made of high-tensile steel to withstand hard use but only weighs about 10 lbs. so is easy to handle. No bolts are necessary to fasten the sign to the standard, so it is assembled easily.

New Illustrated Catalog Of Reflective Pavement Markers

A fully illustrated catalog just issued by the Prismo Safety Corporation gives all the facts about Plastix, a permanent-type reflective pavement marking material with many applications—for modern traffic safety and control programs, for marking airfields, parking facilities and for industrial uses.

Plastix is an extruded thermo-plastic material, completely and uniformly impregnated with microscopic glass spheres. It is supplied in white, yellow, and red, in strips, squares, rectangles, rolls and discs for marking crosswalks, stop lines, center lines, safety zones and parking T's. Plastix offers a complete selection of prefabricated legends, letters, numerals and standard arrows for pavement traffic word messages, route indications and turn guidance. Special shapes for unusual traffic markings can be custom die-cut.

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The catalog has photographs, diagrams and charts with detailed descriptions of the various Plastix markers and where and how to use them. For a copy of Catalog PX-56, write Prismo Safety Corporation, Huntingdon, Pa.

VIOLENCE IN MULE'S HEAD

(Continued from page 48)

He put his great arm around Henry's frail shoulders: "Boy, I don't know how you knew about my glass jaw that kept me from being a champ, but that was the purtiest counter and the solidist punch I ever took. You're all right, son. Shake." He pumped Henry's limp hand, and turned to the Council where one of the members was heatingly demanding that the Mayor fire Henry forthwith and then have him arrested for disorderly conduct, assault and battery.

Spike turned a malignant eye on the Councilman. "Schwartz, you little polecat, shet up!" The Councilman halted, apologetically.

"This here's my boy," announced Spike, smiling like a mother. He turned to Henry. "What was it you wanted this Council to do when you came here tonight, son?"

"Why, I only wanted them to pass an ordinance making Gove Avenue one-way to the south and Elmwood Street one-way to the north, beginning at their junction with First Street and ending at Nichols Boulevard," stuttered Henry.

"Ain't that what we want?" asked Spike of his henchmen. There was a roar of assent. He turned to the stunned Councilmen. "Well," he inquired, "What are you waiting for?"

Councilman Schwartz jumped to his feet. "Gentlemen, if a motion is in order I hereby move that, well, you heard what Henry said."

"Second the motion," said Councilman Gerkin.

"All in favor signify by saying aye," ordered the Mayor. "The ayes have it."

The P.E., his honest face wearing a haunted, incredulous look, hit Henry on the back. "Well, wheel me down a one-way street and drop me down a manhole," he offered. "If you fell in a latrine, the soldiers that fished you out would smell like Chanel No. 5 for six months!"

"Will you do me a favor?" asked Henry.

"No matter how big, it's a deal."

"I need a whole bunch of zombies and pink ladies and martinis. Hold me up and take me to them, for I'm scared I can't walk by myself."

"Like I said, it's a deal." said the P.E., as he and Henry worked their way through the happy group arm in arm.

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1. The names and addresses of the publisher, editor, managing editor, and business managers are:

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semi-weekly and tri-weekly newspapers only.)

Institute of Traffic Engineers, Inc.
OSMUN FORT,
Agent of the Publisher

Sworn to and subscribed before me this 25th day of September, 1956.

[Seal]

WILLIAM L. CHRISTIAN,
Notary Public of N. J.
(My commission expires April 1st, 1958)

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